

Fall 2019

Terminal Illness: The Political Ecology and Political Economy of the Millennium Bulk Coal Export Terminal, Longview, WA

Paige McNorvell

Central Washington University, paige.mcnorvell@cwu.edu

Follow this and additional works at: <https://digitalcommons.cwu.edu/etd>



Part of the [Environmental Law Commons](#), and the [Human Geography Commons](#)

Recommended Citation

McNorvell, Paige, "Terminal Illness: The Political Ecology and Political Economy of the Millennium Bulk Coal Export Terminal, Longview, WA" (2019). *All Master's Theses*. 1303.

<https://digitalcommons.cwu.edu/etd/1303>

This Thesis is brought to you for free and open access by the Master's Theses at ScholarWorks@CWU. It has been accepted for inclusion in All Master's Theses by an authorized administrator of ScholarWorks@CWU. For more information, please contact scholarworks@cwu.edu.

TERMINAL ILLNESS: THE POLITICAL ECOLOGY AND POLITICAL ECONOMY
OF THE MILLENIUM BULK COAL EXPORT TERMINAL, LONGVIEW, WA

A Thesis

Presented to

The Graduate Faculty

Central Washington University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

Cultural and Environmental Resource Management

by

Paige Elizabeth McNorvell

November 2019

CENTRAL WASHINGTON UNIVERSITY

Graduate Studies

We hereby approve the thesis of

Paige Elizabeth McNorvell

Candidate for the degree of Master of Science

APPROVED FOR THE GRADUATE FACULTY

Dr. Elvin Delgado, Committee Chair

Dr. Michael Pease

Dr. Rodrigo Rentería-Valencia

Dean of Graduate Studies

ABSTRACT

TERMINAL ILLNESS: THE POLITICAL ECOLOGY AND POLITICAL ECONOMY OF THE MILLENNIUM BULK COAL EXPORT TERMINAL, LONGVIEW, WA

by

Paige Elizabeth McNorvell

November 2019

The declining demand for coal in the United States (U.S. Energy Information Administration [EIA] 2016) has led to a push by the coal industry for the construction of export terminals in the Pacific Northwest that would supply coal from the Powder River Basin of Montana and Wyoming to Asia. Though none of the proposed terminals have been approved for construction, the Millennium Bulk Coal Export Terminal in Longview, Washington remains a potentially viable option pending decisions in state and federal courts. In this thesis, I critically analyze the Millennium Bulk Terminal permitting process through a mixed-methods qualitative approach that uses archival work supported by semi-structured interviews and adopts the frameworks of political ecology, political economy of natural resources, and environmental governance.

I argue in this thesis that the complexity and extended duration of the Millennium Bulk coal export terminal permitting process is the result of the multiplicity of interests acting upon it. The controversial nature of the terminal has created divisive friction within the Longview community over the environmental costs of potential economic

growth, but it is the state of Washington's climate-change focused political agenda that has led to what appears to be the terminal's demise. These state government actions to deny critical permits for the Millennium terminal has produced inter-scalar tensions with the federal government, who, under President Trump's administration, has used neoliberal economic strategies to attempt to promote fossil fuel development and export. Coal export terminals in the Pacific Northwest, however, have not been able to gain state government approval because of the cumulative effect of the specific materiality of coal and the position of these terminals at the midstream point of the global coal commodity chain.

TABLE OF CONTENTS

Chapter	Page
I	IT'S A COAL, COAL WORLD..... 1
	Introduction 1
	Research Problem..... 4
	Purpose 8
	Significance 11
	Literature Review 12
	Methodology 16
	Study Area..... 23
	Outline of the Thesis 30
II	LITERATURE REVIEW 32
	Introduction..... 32
	Theoretical Frameworks: Political Ecology, Political Economy of Natural Resources, and Environmental Governance 33
	Conclusion 46
III	DEBATE OF THE MILLENNIUM 48
	Introduction 48
	The Thin Green Line: Coal Export in the Pacific Northwest..... 51
	Terminal 6: Millennium Bulk 57
	Conclusion..... 80
IV	PERMITTING REGULATIONS 81
	Introduction..... 79
	Applicable Federal Permitting Regulations 83
	Applicable State Permitting Regulations 91
	Applicable County and Local Ordinances 98
	Conclusion 100
V	ANALYSIS..... 102
	Introduction 102
	Analysis..... 103
	Conclusion..... 115
VI	CONCLUSION..... 118

TABLE OF CONTENTS (CONTINUED)

Chapter	Page
Addressing Research Objectives.....	121
Recommendation.....	125
Limitations	126
Future Research.....	128
REFERENCES	130
APPENDIXES	159
Appendix A – List of Acronyms	159

LIST OF TABLES

Table		Page
1	Federal, state, and county regulations pertaining to the Millennium terminal	15
2	Research questions and methods	22
3	Coal export terminals proposed in the Pacific Northwest	57

LIST OF FIGURES

Figure	Page
1	Expected coal train routes from the PRB to Longview 6
2	Millennium terminal location in Longview, Washington..... 23
3	Delivered coal prices, 2000-2010 (nominal dollars per short ton) 52
4	U.S. coal imports and exports, 2000-2010 (MMst) 52
5	Millennium permitting timeline 2010-2011..... 62
6	Millennium Bulk scoping public hearing in Ridgefield, WA..... 65
7	Millennium permitting timeline 2012-2016..... 68
8	Millennium permitting timeline 2017 Part 1 71
9	Millennium permitting timeline 2017 Part 2 74
10	Millennium permitting timeline 2018-2019..... 79
11	Applicable federal, state, and county regulations for the Millennium terminal 82

CHAPTER I

IT'S A COAL, COAL WORLD

Introduction

We have become the largest energy producer anywhere on the face of the Earth. The United States stands ready to export our abundant, affordable supply of oil, clean coal, and natural gas.

– President Donald Trump, 2018

Now is the time to join together in action and put a price on carbon pollution. Doing so will allow us to reinvest in all the things that drive down emissions . . . and by doing these things, we can save our forests. We can help rural economies. We can protect our waterways.

– Washington Governor Jay Inslee, 2018

Climate change is a challenge that must be addressed. Yet national economies and standards of living are built on energy, and at this point fossil fuels provide the basis for energy infrastructure in the developed world.

– Bill Chapman, former CEO of Millennium Bulk Coal Export Terminals, 2018

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) released its report on global climate change, which illuminates the inevitable ecological crises that life on Earth will experience if drastic changes to the world economy are not made immediately (IPCC 2018). This dystopian future is closer than previously thought (United Nations Framework Convention on Climate Change 2015): by 2040, if the Earth has warmed by 2° Celsius from pre-industrial times, there will be increased risks associated with more frequent and intensified drought and flood events, sea level rise will displace millions of people, coral reefs will near extinction, wildfires will ravage

increasing areas of the globe, and more and more people will experience losses in water, food, and health security. The report concludes that the cause of such an unprecedented rate of warming is anthropogenic in nature. The only way to prevent such a scenario is to cease all anthropogenic emissions of CO₂ and subsequently limit warming to no more than 1.5° Celsius (IPCC 2018). This will require global cooperation on an unprecedented scale.

The greatest source of CO₂ emissions is fossil fuel combustion, including coal, oil, and natural gas (U.S. Environmental Protection Agency [EPA] 2017). In an effort to reduce global anthropogenic carbon emissions, several countries, such as Iceland, Costa Rica, and Paraguay, have already transitioned from fossil fuel-based economies to renewable energy systems (Bloomberg New Energy Finance 2018; International Renewable Energy Agency [IRENA] 2018). The United States, however, has a long way to go to catch up to these nations; the United States does not even make the top fifty in terms of the percentage of energy produced by renewables (International Energy Administration [IEA] 2018a).

Despite being one of the top three producers of renewable energy (IRENA 2018), the United States only produces approximately 17 percent of its electricity from renewable sources (EIA 2019a). Fossil fuels still make up the vast majority—upwards of 80 percent— of the United States’ energy mix, as they have for over a century (EIA 2019b). The reluctance on behalf of America to abandon fossil fuels for alternative energy sources should come as no surprise; American consumerism and the American way of life would not be what it is today were it not for a heavily fossil fuel-based economy (Black 2012). This fossil fuel culture has so deeply embedded itself into

American infrastructure such as gas stations and interstate highways that adjusting this infrastructure to fit a renewable resource economy would take massive quantities of money, effort, and time (Sayre 2017).

Regardless of the federal government's recent attempts to revive the fossil fuel industry in the United States, particularly coal (Pamuk 2018), several states have independently put forth their own initiatives to move away from fossil fuels. For example, Governor Brian Sandoval of Nevada signed legislation that makes residential solar panels more affordable (Public Utilities Commission Nevada 2019). Hawaii pledges to run its transportation sector entirely on renewable energy sources by 2045 (Hawaii State Energy Office 2019). Even a coal-dependent state like Wyoming intends to send wind-powered energy to states in the Southwest (*The Seattle Times* 2017a). While the current presidential administration attempts to repeal the Clean Power Plan (CPP), an Obama-era initiative intended to lower carbon emissions from power plants (EPA 2017), at least twenty-five states are still on track to meet their target emissions goals, with or without the CPP in place (Plumer and Popovich 2017).

Among these states is Washington, whose state governor has repeatedly campaigned for the abandonment of fossil fuels in order to reduce greenhouse gas emissions (GHGe) and mitigate the impacts of climate change (Inslee 2018). Washington state is the number one producer of hydroelectric energy in the country and alone accounts for a quarter of the nation's hydroelectric energy generation (EIA 2018a). Renewable sources make up approximately 80 percent of the state's energy production; about 90 percent of this comes from hydroelectric dams. Washington state also utilizes, to varying degrees, wind (7.1 percent), solar, biomass, and geothermal energy (1.7

percent combined) (EIA 2018b; Department of Commerce 2018). However, Washington is not yet a 100 percent clean energy state. The state is considered to be a major oil refinery hub (EIA 2018c) and there is still a single coal-fired power plant in operation (Vartan 2018).

In addition, six coal export terminals have been proposed in the Pacific Northwest (PNW) in the last decade. The proposals for facilities in Bellingham (U.S. Army Corps of Engineers [USACE] 2016f), Hoquiam (Lafontaine 2012), St. Helens (Learn 2013a), Boardman (Oregon Department of State Lands [ODSL] 2014), and Coos Bay (Learn 2013b) all failed due primarily to their inability to meet various permitting regulations and requirements (*Oregon Public Broadcasting [OPB]* 2017). The final proposal for a facility in Longview has also struggled to receive the necessary permits, but instead of abandoning the project, the company has repeatedly challenged these denials despite an overwhelming number of setbacks (Butterfield 2018). As this thesis shows, this has led to heated controversy across the state and across the country, as permitting decisions are praised by environmentalists, divide community members, and are criticized by government officials within and outside Washington.

Research Problem

The United States' energy mix relies heavily on fossil fuels including oil, natural gas, and coal (EIA 2013a). However, the past decade has witnessed a steady decrease in annual coal production from 300 million short tons (MMst) to 173 MMst, levels not seen since the 1980s (EIA 2016). This decline in production can be largely attributed to decreasing consumption of fossil fuels and the increasing demand for renewable energy

and natural gas, both of which are relatively inexpensive alternatives (EIA 2013a; EIA 2016; Congressional Research Service 2017). Renewable energy production nearly doubled from 6 percent of total energy production in 2010 (EIA 2012) to 10 percent in 2016 (EIA 2018d) and coal mines across the country are retiring as a result. Washington state, which produced nearly 15 percent of the country's renewable energy in 2017, closed its very last coal mine in 2006 (EIA 2018b). Despite this decrease in domestic consumption, the high demand for coal in Asia (IEA 2018b) has encouraged companies to export this energy resource overseas to South Korea, India, and Japan, which make up about 25 percent of total U.S. coal exports (EIA 2017a). This foreign market provides an international spatial fix, a geographical reorganization of capital that serves to solve the intrinsic contradictions of capitalism (see Chapter II) (Harvey 2003), for coal production in the United States.

To reach the Asian market, coal is currently transported via rail from mines in the Powder River Basin (PRB) of Montana and Wyoming through Washington to export terminals in Canada (Jalbert et al. 2017, 78). Of the five additional coal export terminals proposed in the last decade in the PNW, all but one have been abandoned or blocked by various government agencies including the Washington State Department of Ecology (Ecology), USACE, and ODSL (Williams-Derry and de Place 2017). The last remaining proposed terminal is in Longview, Washington where Millennium Bulk Terminals (hereafter also referred to as Millennium) began the permitting process in 2010. This terminal would export forty-four million tons of coal per year (Cowlitz County 2017a) in addition to the sixty million tons already exported annually in the United States (EIA 2017b). Figure 1 outlines the train routes rail companies like Burlington Northern Santa

Fe (BNSF) and Union Pacific (UP) are expecting to take from mines in the PRB to the Longview terminal and indicates whether the coal trains would be loaded with coal or empty on that particular stretch of route.

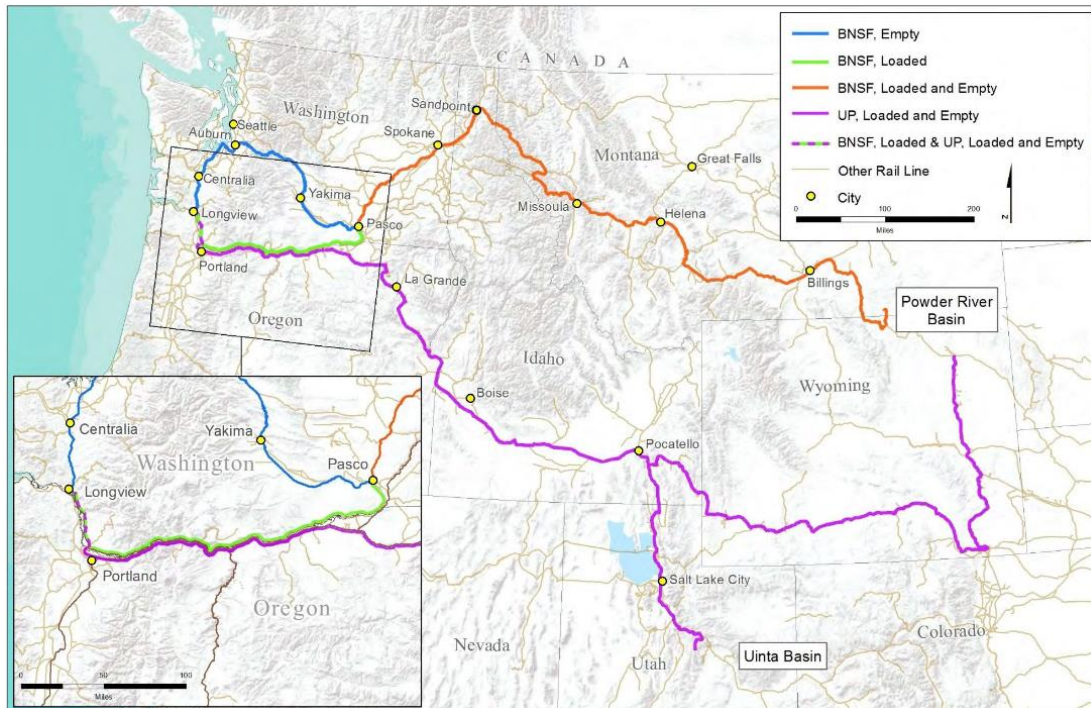


Figure 1. Expected coal train routes from the PRB to Longview (Cowlitz County and Ecology [CC&E] 2016a, S-6)

Ecology released its Final Environmental Impact Statement (FEIS) for the terminal in 2016, addressing the potential effects of the proposed terminal and connected railways on air, water, wildlife, and resources in the area (Ecology 2017a). However, there are concerns that the FEIS “consistently understates, misrepresents and simply does not have relevant significant information” (Schick 2016). Ultimately, Ecology denied Millennium the essential Clean Water Act Section 401 Water Quality Certification required to begin construction on the grounds that the environmental hazards are “significant and unavoidable” (Ecology 2017b). Millennium’s parent company, Lighthouse Resources, filed a federal lawsuit against the state of Washington backed by

six mid-western states, Wyoming, Kansas, Montana, Nebraska, South Dakota, and Utah, in 2018 as a result of these permit denials (Lighthouse Resources Inc. 2018), but has thus far failed to provide proof of any federal violations (Richards 2018).

This lawsuit represents the multiplicity of conflicting interests between the federal government, state government, and private businesses. At the federal level, President Trump and his administration have remained steadfast on his campaign pledge to “end the war on coal” (White House 2017) by dismantling Obama-era environmental regulations. The regulations that have come under fire by Trump’s administration include the Stream Protection Rule (*Chicago Tribune* 2017), which serves to protect waterways against coal mining waste dumping, via House of Representatives Joint Resolution 38 (2017) and replacing the CPP with the so-called Affordable Clean Energy Rule (ACER) (EPA 2019a). The Trump administration is also proposing a revised definition of “waters of the United States” (WOTUS) to become effective in December 2019 (EPA 2019c) that intends to encourage economic growth by more clearly delineating which projects require federal permits (EPA 2018). In contrast, at the state level, Washington State Governor Jay Inslee is focused on moving away from fossil fuels and reducing emissions in order to combat climate change (Inslee 2018). In the private sector, Millennium is attempting to capitalize on the potential for an expansion of their industrial site in a way that increases the profitability of domestic coal production and in turn, boosts the local economy (Millennium Bulk Terminals – Longview 2018).

Current and forecasted global climate conditions present complex challenges for the retiring and development of particular energy resources and their respective infrastructure. The decision on behalf of Millennium to continue to pursue their coal

export project despite a dwindling coal economy and the fate of the other proposed terminals in the PNW has been nothing short of controversial. The research problem this thesis aims to address is the tension created by the contradictory goals between the federal government's incentivization of coal production and Washington state's intent to phase out fossil fuels. The Millennium Bulk coal export terminal permitting process is used as a case study in this thesis in order to understand how such tensions are negotiated in practice.

Purpose

The overarching argument of this thesis is that the complexity and extended duration of the Millennium Bulk coal export terminal permitting process is the result of the multiplicity of interests acting upon it. These interests include those of the federal government, Washington state government, additional state governments with a vested interest in coal export, environmental groups, community members, and the company itself. The purpose of this research is twofold: (1) to explore the legal frameworks and social processes that Millennium Bulk has been confronted by throughout their permitting process; and (2) to understand how this process is reconciled within the theories of political ecology, political economy of natural resources, and environmental governance. Legal frameworks refer to any governmental rule, regulation, or law and their interpretation and implementation. Social processes include public hearings, protests, complaint filings, or other public displays or movements in favor of or in opposition to the Millennium terminal for any reason, though they are typically associated with economic or environmental impacts (or the lack thereof). This thesis

utilizes the theories of political ecology, political economy of natural resources, and environmental governance in order to frame the permitting process in a way that highlights the role each interest group plays. These theoretical frameworks are also used in conjunction with an assessment of the legal frameworks to illuminate points of tension between each interest group. To pursue these ends, the following objectives (O) have been set:

O1) Explore how the Millennium Bulk Terminal permitting process is reconciled within the frameworks of political ecology, political economy of natural resources, and environmental governance;

O1a) Perform a critical review of the relevant literature in political ecology, political economy of natural resources, and environmental governance

O1b) Provide a detailed historical account and timeline of the Millennium permitting process

O1c) Frame the Millennium permitting process within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance.

O2) Assess the legal frameworks in place that guide the permitting process for the Millennium Bulk Terminal;

O2a) Identify the relevant rules, regulations, and laws that have been referenced in permit application or decision materials and court filings relating to the Millennium terminal

O2b) Explore the extent to which these legal frameworks have been implicated in permitting decisions or court filings for the Millennium terminal.

O3) Determine how social dimensions are incorporated into the decision-making process;

O3a): Conduct semi-structured interviews with community members, environmental groups, and government officials.

O3b): Analyze documents (discussed in further detail below) that identify and discuss social dimensions.

O3c): Explore the extent to which these social processes were taken into consideration and/or incorporated into the decision-making process.

To reach these objectives, I have broken this research into distinct research questions. To understand the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance as they relate to the Millennium Bulk Terminal, I explore R1): What are the main objectives and topics of focus in political ecology, political economy of natural resources, and environmental governance and how does the terminal conform with or deviate from their theories and frameworks? To analyze the legal frameworks for the Millennium permitting process, I ask R2): What are the specific laws and regulations in place that govern the Millennium permitting process at the federal, state, and local levels and what are the implications of these laws for the state and for Millennium? To understand how social dimensions have impacted the decision-making process, I ask R3): How have social dimensions been represented in the decision-making process?

Significance

This thesis contributes to the body of knowledge surrounding energy resource management, energy policy, and community relations in regard to communities surrounding and affected by fossil fuel transportation and export projects. Extensive literature exists on the environmental, health, and economic impacts of coal export (Globberman 2013; Taylor 2014; Moser 2011); however, very few scholars have investigated the interplay between legal and social processes during the permitting phase of proposed coal export projects (Allen et al. 2017). This thesis would represent the first critically analytical case study on both the legal frameworks and social dimensions of the Millennium Bulk Coal Export Terminal and the first to conceptualize PNW coal export projects within political ecological and political economic theories. This gap exemplifies the lack of explicit connection that has been made in the scientific literature between legal and social processes in relation to energy resource distribution. This thesis presents the multiple positionalities of the actors involved in this debate as a juxtaposition of conflicting interests and the direct focus on these stakeholders (and others not considered in this research) will foster better understanding between and among resource managers and stakeholders involved in coal export projects. Assessing the legal issues associated with this particular project will also benefit decisions makers by showcasing how conflict arises as a result of differences in regulatory interpretations.

If the Millennium Bulk export terminal is granted approval for operation, it would serve as a precedent for other export terminals around the country, particularly in the PNW. This has the potential to revive coal as an economic resource and encourage increased extraction. It is important for resource managers and policy makers to

understand the myriad implications of fossil fuel export and how it affects the local communities involved when it comes to making management decisions.

Due to the specificity of my research, my results may only apply to the particular facility and community examined in my thesis. However, the same methodologies and theoretical approaches used in my thesis may be utilized with other communities presented with opportunities for fossil fuel export to aid in developing a better understanding of the tensions surrounding and different perspectives on any particular energy resource.

Literature Review

Global Fossil Fuel Networks

The fossil fuel commodity chain consists of upstream extraction sites such as mines and wells, midstream processing, transportation, and distribution sites, and downstream consumption sites (Hall 2008). The Millennium Bulk coal export terminal would be considered a midstream distribution point between where coal is extracted domestically and consumed internationally. The position of fossil fuels in the global market, indicated by the recent push for coal export terminals, represents the “extensive spatial reach of fossil fuels” (Delgado 2017a, 332). Delgado (2017a) explains that this “spatially extensive character” (333) of fossil fuels manifests itself in two ways. The first manifestation is the ability of fossil fuels to circulate as a variety of commodities in “social, political, and natural spheres” (333). The second way is that these commodities are produced within particular socio-ecological conditions and at the same time produce landscapes of socio-environmental crises along each stage of the fossil fuel commodity

chain. Export facilities embody this extensive reach in that they turn resources with discrete origins into widely dispersed global commodities, in a form of “landscape commodification” (Frantál 2017, 206). The global production networks of extractive industries are often viewed as a means of economic development in otherwise economically desolate regions (Bridge 2008). However, the reality is that these areas are subject to and often suffer from economic instability as a result of volatile boom and bust economies (Black, McKinnish, and Sanders 2005), negative environmental impacts and resulting public health issues (Frantál 2014), and increased stresses on social services and law enforcement (Brasier et al. 2011; Delgado 2018). As is highlighted throughout the remaining chapters of this thesis, these impacts are not unique to upstream or extractive processes; midstream facilities also pose similar if not identical threats to the local communities.

Social and Environmental Impacts of Fossil Fuel Development

Fossil fuel production networks create specific landscapes of socio-environmental crises, particularly to local communities (Hendryx 2008; Auyero and Swistun 2009; Delgado 2017a; Delgado 2017b; Frantál 2017). Coal, oil, and natural gas industries earn millions of dollars in revenue annually, yet the local communities receive only fractions of these profits despite being left to suffer the consequences of environmental degradation (Delgado 2017b, Auyero and Swistun, 2009; Frantál 2017). While communities are able to enjoy periods of economic growth due to the expansion of fossil fuel extraction industries, known as a “boom,” price volatility of fossil fuels inevitably results in crashing markets or a “bust,” whose negative effects are often much larger and

more widespread than any benefits seen during the boom (Black, McKinnish, and Sanders 2005). The cycle of boom and bust in any extractive industry is continuous, though often not predictable, resulting in immense economic instability. The boom periods are also known to cause several negative socioeconomic conditions due to the influx of workers from outside the community, such as inflation and increased job competition, housing shortages, and increased pressure on law enforcement and emergency services (Brasier et al. 2011).

Environmental degradation occurs at each stage of fossil fuel development. Wetland environments are reduced and/or poisoned through extraction (Delgado 2017b), explosions, spills, and waste disposal practices pollute waters and ecosystems (Delgado 2017a), and prolonged exposure to chemicals and pollutants by workers and the surrounding communities leads to increased incidence of chronic diseases and subsequent mortality rates (Hendryx 2008; Auyero and Swistun 2009; Frantál 2017; Delgado 2017a;). These issues are exacerbated by limited access to financial and medical resources, which further perpetuate these communities' lack of power to reject these externalities. Because of the proposed export terminal's position in the fossil fuel commodity chain as a midstream point, this means that the surrounding community would not be subject to the same socioeconomic and environmental injury or benefits as a community at the upstream point of the chain. However, the Longview community is presented with the possibility of particular positive and negative outcomes, such as economic growth or environmental and public health issues. Though these socio-environmental impacts are not yet visible in Longview since the proposed Millennium terminal is not yet in operation, empirical evidence shows the rationale behind the

decisions to deny permits is based on these potential impacts. Claims from community members and politicians (presented in Chapters III and IV) coincide with this literature.

Permitting Regulations

The following laws and regulations (Table 1) are involved in one of several ways with the Millennium Bulk Terminal. These ways may include the permitting process, construction of the terminal, and/or operation of the terminal. Chapter III introduces these regulations within the context of the Millennium permitting process. Chapter IV of this thesis investigates the applicability of these laws and regulations to the terminal and analyzes the extent to which they have impacted the approval of the terminal. Chapter V integrates these regulations and their interpretation and implementation within the frameworks of political ecology, political economy of natural resources, and environmental governance.

Table 1. Federal, state, and county regulations pertaining to the Millennium terminal

Federal	State	County
Commerce Clause	State Environmental Policy Act	Cowlitz County Code (CCC) Shoreline Master Program
National Environmental Policy Act	Clean Water Act §401	CCC Shoreline Management
Clean Water Act	Washington State Water Code	CCC Critical Areas Protection Ordinance
Rivers and Harbors Act	Washington State Shoreline Management Act	CCC Floodplain Management Ordinance
Endangered Species Act	Washington State Hydraulic Code	
Clean Air Act	Washington State Clean Air Act	
Resource Conservation and Recovery Act		

Comprehensive Environmental Response, Compensation, and Liability Act	Growth Management Act	
Magnuson-Stevens Fishery Conservation and Management Act	State Nuisance Laws	

Methodology

My research took place during beginning the summer of 2018 until Fall 2019. It is separated into three phases:

Phase 1) June 2018 – September 2018

Fieldwork/interviews (Longview, WA; Olympia, WA; Seattle, WA)

Phase 2) July 2018 – August 2019

Transcription of interviews and triangulation of data

Phase 3) September 2019 – October 2019

Data analysis and write-up

The overarching argument of this thesis is that the complexity and extended duration of the Millennium Bulk coal export terminal permitting process is the result of the multiplicity of interests acting upon it. The corresponding main objective is to use the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance to conceptualize such a convoluted process associated with expanding energy resource geographies through a case study of the Millennium Bulk Terminal. To this end, there are three smaller objectives of this thesis: O1) to explore how the Millennium Bulk Terminal permitting process is negotiated within the aforementioned frameworks; O2) to assess the legal frameworks in place that govern the

Millennium permitting process; and O3) to determine the extent to which social dimensions are incorporated into the decision-making process. To reach these objectives, I have broken my thesis into distinct research questions. To understand political ecology, political economy of natural resources, and environmental governance frameworks as they relate to the Millennium Terminal, I explore RQ1): What are the main pillars of political ecology, political economy of natural resources, and environmental governance and how does the terminal conform with or deviate from their theories and frameworks? To analyze the legal frameworks for energy resource governance, I ask RQ2): What are the specific laws and regulations in place that govern the Millennium permitting process at the federal, state, and local levels and what are the implications of these laws for the state and for Millennium? To understand how social dimensions impact the decision-making process, I ask RQ3): How have social dimensions been represented in the decision-making process?

This research utilized several qualitative research methodologies (Table 2). Each method is best fit for answering particular types of questions and the amalgamation of these methods allows for a deeper, more comprehensive understanding of the issues at hand (Morse 2003). These methods include: i) semi-structured interviews, ii) archival work and document analysis, and iii) the assembling of an event history calendar (EHC).

Semi-structured Interviews

Interviews are an effective form of qualitative data because they allow researchers to gain insight into people's behaviours, thoughts, beliefs, and experiences (Stuckey 2013; Mack et al. 2005). Much like structured interviews, semi-structured interviews

involve following a set of scripted questions, but they allow for a deeper understanding of the discussion topics. They invite the interviewer and the interviewee to explore new topics that come up or delve further into issues that seem most important. In this way, the interview becomes more of a naturally flowing, yet organized, conversation that requires the interviewer to listen carefully to the participants' responses (Longhurst 2003; Harrell and Bradley 2009).

For this thesis, I have identified five participant cohorts for interviews: 1) community members; 2) government officials; 3) environmental group representatives and members; 4) industry professionals; 5) tangential businesses or organizations who may benefit from the construction or operation of this terminal. It is important that each of these groups be distinctly identified, since each group may experience varying levels of support or opposition to the Millennium Bulk terminal and are likely to base their positionality on different rationales. Crowe et al. (2015), in their examination of the differences in perceptions of hydraulic fracturing between community leaders and community members, found that community leaders ground their support for the industry in the growth-machine theory of economic gains, while community members ground their opposition in the framework of environmental justice. They also found that there was a greater divide among community members in their perceptions of the industry. Had all participant cohorts been conflated into one subject pool, it would have been extremely difficult to differentiate between the frameworks each group uses to ground their positionality.

By using semi-structured interviews with community members, government officials, and environmental groups, I am able to compare responses to similar sets of

questions, while also discerning the differences in where each respondent led the conversation. I gathered potential interview participants from the Longview community by initially leaving notices at a random sample of fifty houses that briefly described my research project and requested their participation in the study. This method resulted in one participant from the community. For the other two participant cohorts, I gathered potential interview participants by initially identifying key members of government agencies and environmental groups. Once they were identified, part of their interview included asking for references for other potential participants that are knowledgeable about or have experience with my research topic. This method of gathering participants is known as snowball sampling, which ultimately resulted in eight total interviews. Due to this low number of samples, information gathered from these interviews cannot be seen as significant, therefore no formal analysis was conducted on interview data. However, these interviews were used to triangulate data gathered through archival work and document analysis, discussed further in the section below. Interviews were recorded using my personal audio recorder. I ensured the participants' confidentiality and anonymity by coding their responses and assigning pseudonyms in place of their names for this thesis. No identifying information was collected throughout the course of these interviews. By learning about community reactions to the terminal and relevant permitting decisions, semi-structured interviews helped to meet O1 and O3 and answer RQ1 and RQ3 during Phase 1 of my research.

Archival Work and Document Analysis

Archival work and document analysis aim to complement the data collected in the field (Bowen 2009). Most of this archival work focused on tracing the development of Millennium's permitting process alongside a timeline of legal and regulatory events. This led to the creation of a chronological EHC (Axinn, Pearce, and Ghimire 1999; Belli, Shay, and Stafford 2001; Box-Steffensmeier and Jones 2004). Documents analyzed include newspapers, including but not limited to I's *The Daily News*, *The Seattle Times*, *The Oregonian*, *The Los Angeles Times*, and the *New York Times*; government reports and legal documents, such as fossil fuel export, production, and consumption figures, Presidential executive orders, laws and regulations, state and federal Environmental Impact Statements (EIS), permitting decision notices and letters from state and federal agencies, and state and federal case documents; meeting minutes from Cowlitz County public meetings; scientific literature; industry technical reports on coal; resolutions and press releases from Washington local governments and interest groups; and environmental group reports. These documents were collected primarily from online sources, and a small number were delivered to me by interviewees. Documents specific to the Millennium terminal were gathered from the terminal's inception in September 2010 to the present date (October 2019). The information gathered from these sources helped to identify any areas of miscommunication or misinformation, as well as corroborate information gathered in my fieldwork. By addressing regulatory frameworks, political decisions, and community reactions, this method is most beneficial in helping to fulfill O1, O2, and O3 and answering RQ1, RQ2, and RQ3.

Transcription, Triangulation, and Data Analysis

Interviews were transcribed during periods of downtime while in the field, but most transcription occurred during Fall 2018. Quotes from these interviews were then isolated in order to support information uncovered during archival work. This is an example of triangulation. Triangulation refers to the cross-referencing of information and data gathered from various sources and through various methods in order to validate each data point (Creswell and Miller 2000). Data from interviews were used to triangulate data from archival work and vice versa to ensure accuracy of the information. High levels of correspondence between these methods allowed me to find common themes within the data. These themes, identified in Chapters III and V, were then conceptualized through political ecology (e.g., by examining how interview participants negotiate and interact with their environment, with members of their community, and with external actors in coal distribution), political economy of natural resources (e.g., by relating political and economic factors associated with resource extraction and transportation to their effects on the community), and environmental governance (by identifying the relationships within and between formal and informal political actors and the resulting environmental decisions). The goal of triangulation in this thesis is to help add a layer of validity to my research by providing multiple sources of evidence. Transcription, triangulation, and data analysis help fulfill O1, O2, and O3 and help to answer RQ1, RQ2, and RQ3.

Event History Calendar

An EHC is a tool typically used in ethnographic research as a technique to guide the interview process. Adapted from the life history calendar, which is traditionally used

to collect retrospective temporal information about individuals during a specific period of time (Axinn, Pearce, and Ghimire 1999; Belli, Shay, and Stafford 2001), EHCs can be used to establish chronological timelines of external events rather than personal ones. EHCs are especially useful in following multiple timelines each with multiple data points (Box-Steffensmeier and Jones 2004). However, this technique has only been used twice before in the context of natural resource management (Engle 2010; Snyder 2018). Because this present research is heavily grounded in tracing temporal events, such as the development of Millennium’s permitting process as well as legal and regulatory events, the EHC technique is adapted here outside the interview setting. This allows for the creation of a chronological timeline which, as a visual aid, illuminates any potential linkages between these events. This timeline is beneficial for reaching objectives O1 and O2 and answering RQ1 and RQ2.

Table 2. Research questions and methods

	RQ1. Theoretical Frameworks	RQ2. Legal Frameworks	RQ3. Social dimensions
M1 – Semi-structured interviews			X
M2 – Archival work and document analysis	X	X	X
M3 – Transcription, triangulation, data analysis	X	X	X
M4 – Event history calendar	X	X	

Study Area

Longview, WA

Longview is located on the western edge of Cowlitz County in Washington State on the north shore of the Columbia River (Figure 2). It is approximately 14.55 mi² at an average elevation of 21 ft. The Cowlitz River and city of Kelso border Longview to the east, the unincorporated community of Coal Creek borders the north, and the Columbia River delineates the southern and the majority of the western borders.

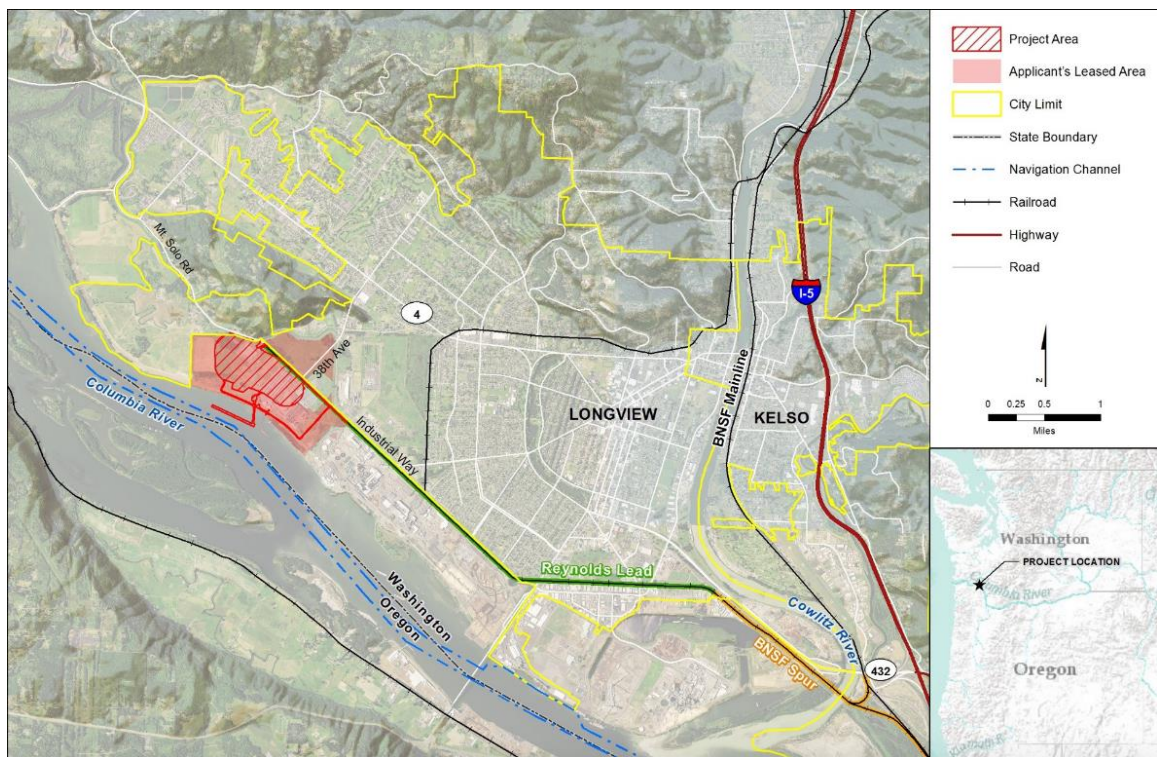


Figure 2. Millennium terminal location in Longview, WA (Cowlitz County 2016a)

Climate and Geology

The average temperature in Longview is 52°F and the average annual precipitation is 46". The winters are cool and wet, with average temperatures of 41°F and an average 18" of rainfall. Summers are warmer and drier, with average temperatures of

63°F and an average 4” of rainfall (Western Regional Climate Center 2017). Heavy precipitation during the winter months correlates with lower ambient levels of coal dust and associated elements such as arsenic and lead, as it weighs particulates down and deposits them on the ground (Protonotarios, Petsas, and Moutsatsou 2002). These particulates then infiltrate into the soil (Bounds and Johannesson 2007) and enter nearby bodies of water in runoff (Ahrens and Morrissey 2005). Lower levels of summer rainfall allow for greater concentrations of particulate matter and GHGs from coal transport to remain in the air rather than on land or in water, leading to decreased air quality (Protonotarios, Petsas, and Moutsatsou 2002). The average wind speed in Longview is 8.69 mph but can reach up to nearly 17 mph in the winter (World Media Group 2018), increasing the likelihood that coal dust will get picked up from railcars transporting coal through the area during the winter and lead to decreased water quality.

Longview is characterized by flat terrain and predominantly alluvial soils typical of floodplains (Schuster 2005). Located within the Cascadia Subduction Zone and neighboring the volcanic mountains of the Cascades, this area is highly susceptible to geologic hazards (Cowlitz County 2017b). An eruption at Mount St. Helens less than forty miles to the east could inundate the entire Cowlitz River with lahars (Wolfe and Pierson 1995). The alluvial soils are at moderate to high risk of liquefaction in the case of a powerful earthquake (Palmer et. Al 2004), which could damage the infrastructure at Millennium Bulk Terminals site, potentially releasing coal or other hazardous materials into the surrounding environment.

Hydrology and Ecology

Longview lies at the confluence of two major rivers. The Cowlitz River flows from Mount Rainier in the northeast for 105 miles. It empties an average of 9,200 ft³/s into the Columbia River in Longview (U.S. Geological Survey 2007) as one of the Columbia's largest tributaries approximately sixty-eight miles from its mouth (Foundation for Water and Energy Education 2017). From its headwaters in British Columbia to its mouth near Astoria, Oregon 1,214 miles away, the Columbia River is the twelfth longest river in the country with a watershed spanning over 260,000 mi², making it the largest that drains into the Pacific (Kammerer 1990). The USACE maintains the channel at specific parameters to maximize the permissible weight of freight (and therefore profits) on commercial vessels (Luccio 2014) to encourage industrial use. For this reason, however, the Columbia River is prone to environmental and ecological damage from dredging and hazardous spills. Construction of the Millennium terminal would require substantial modification to the river in terms of dredging and the addition of pilings into the riverbed, and its operation would add nearly 1,700 freight vessel trips per year (Ecology 2018).

The area of the river from the Bonneville Dam to the Pacific Ocean is known as the lower Columbia River (LCR). The LCR forms an estuary where the ocean saltwater and the river's freshwater meet. The convergence of the two aquatic systems results in a bustling yet fragile ecosystem that supports hundreds of marine and terrestrial species for at least part of their lives (Lower Columbia Estuary Partnership [LCEP] 2017). Increasing levels of toxins, along with rising water temperatures and lower dissolved oxygen levels, contribute to the devastating decline of several species. Annual salmon

and steelhead runs historically reached between eight and sixteen million, yet fewer than one million now return each year (LCEP 2015). Several key terrestrial species live along the LCR in riparian and woodland environments, including a number of previously endangered species. For example, bald eagles are no longer endangered but increasing levels of toxins in their food sources pose a serious threat to themselves and their reproductive health (EPA 2009). Empirical evidence presented in this thesis shows that there are serious concerns on behalf of members of the community, environmentalists, and government officials that approval of the Millennium terminal would pose a threat to such a sensitive ecosystem because of habitat destruction and aquatic pollutants.

Demographics and Economy

Longview is the largest city in Cowlitz County; nearly 35,000 people called it home in 2000 (City of Longview, WA 2012). The city is considered to be economically depressed with an unemployment rate of 5.4 percent, which, while a significant improvement since its peak 2010 levels of 14.5 percent, is still higher than the national average of 4.1 percent (Bureau of Labor Statistics 2017). The median household income is less than \$40,000 and 23 percent of Longview residents live in poverty, nearly twice the national level (U.S. Census Bureau 2018). A city historically defined by the timber industry and manufacturing jobs, the closure of mills and manufacturing plants since the 1970s and the loss of jobs during the Great Recession left an economic wound that the area is still struggling to heal (Bailey 2016). Despite poor economic activity, or perhaps because of it, Longview is an attractive place to build a massive export facility.

According to Longview Mayor Don Jenson, “Longview is a great place where rail, river, and roads all come together, making it ideal for export projects” (2016).

As a solution to Longview’s economic problems, Millennium touts that their project will grow jobs and expand trade. Berk Consulting, an independent firm, conducted an Economic and Fiscal Impact Assessment for the terminal, claiming the \$640 million terminal will create 1,350 direct jobs during construction, 112 direct jobs upon completion, and 135 direct jobs once the facility reaches its full capacity. Construction is expected to generate \$43.1 million state and county tax revenues and \$70 million in direct wages, followed by an annual \$5.4 million in state and local tax revenues and \$16 million in direct wages due to ongoing operation (Berk 2012). Proponents of the terminal express the dire need for a major operation such as this one in order to combat unemployment rates in the city and secure jobs for younger generations entering the workforce (Bridges and Wallin 2017).

However, a full cost-benefit analysis for the project has yet to be performed. The Oregon and Washington Physicians for Social Responsibility called for a comprehensive Health Impact Statement (HIA) as well as an examination of the “cumulative costs of MBT, including costs of emergency department visits, hospitalization, medications; lost days of school and work for patients and caregivers; and the stress associated with a significant drop in home values, for example” (2016, 1). Several of these concerns are addressed in the final HIA released in 2018 (Cowlitz County 2018). The FEIS identifies several areas of immitigable externalities (Ecology 2017c, 1); it states that there is an “unavoidable and significant adverse environmental impact” on cancer risks in a nearby minority and low-income area from diesel particulate matter emissions. Reductions in

fish populations would limit the number of fish available for harvest east of the Bonneville Dam. It also calls for improvement of rail lines that would cost up to \$350 million, partially funded by taxpayers (Phiel 2014a).

In the absence of a cost-benefit analysis for this terminal, potential costs can only be extrapolated from other existing and proposed terminals. An economic analysis (Mefford et al. 2013) for the Gateway Pacific Terminal, a coal export terminal that was proposed for the Bellingham area, anticipated an annual cost of \$384,000 to \$455,000 to employers and workers due to traffic congestion as a result of an increased number of trains. Property values would decrease by hundreds of millions of dollars because of the noise and environmental pollution associated with coal trains. Derailments can release thousands of tons of coal into the surrounding environment; a derailment in Montana in 2017 cost \$2.5 million in infrastructure repair and cleanup costs (Rasmusson 2017). In addition to costs procured by derailments, PRB coal is notorious for its capacity to spontaneously combust during transit in rail cars and while sitting in stockpiles¹ (Doublerly 2003), which could lead to additional environmental cleanup costs, infrastructure repair costs, or lawsuits due to personal injury. Coal export to South Korea, an intended recipient of Millennium's coal, dropped 43 percent in 2016 from the previous year due in part to the sharp drop in coal prices (EIA 2017c). These declines led to the delayed expansion of Ridley Terminals, an operating coal export terminal in Vancouver, BC, and a shift toward the diversification of their export commodities (Ridley Terminals

1. An example of this occurred in July 2019, when a fire broke out at an abandoned Wyoming mine as a result of spontaneous combustion (Reynolds 2019).

2016). Along with the unprofitability of exporting coal from the PRB (Considine 2015), these should be major warning signs to Millennium.

While the terminal may be a source of new jobs, it would come at the opportunity cost of other more intensive industries that employ greater numbers of people. The facility encompasses 540 acres, providing 0.25 jobs per acre, compared to a marine construction company in Tacoma on 3.5 acres of land who expects to employ around 100 people (Port of Tacoma 2010). At nearly six additional jobs per acre at this site in Tacoma, the coal export terminal in Longview comparatively appears to be a highly inefficient use of land. This sentiment is echoed by a 2013 Economic Impact Study on the Port of Seattle, which concluded that bulk cargo generates a range of a mere 0.06 to 0.27 jobs per 1,000 metric tons of cargo compared to the 1.35 jobs per 1,000 metric tons created by more labor-intensive handling associated with break bulk cargo such as steel, forest products, vehicles, yachts, and large equipment (Martin Associates 2014). This trend is again evident at the adjacent Port of I, which generates an average of 0.07 jobs per 1,000 metric tons of bulk product, relatively unproductive compared to the 2.57 jobs per 1,000 metric tons created by steel export (Martin Associates 2013). Commodity export is generally less efficient in terms of job creation than other industrial land uses. For instance, the development of a FedEx distribution center in Troutdale, Oregon held 9.7 jobs per acre when it began operation in 2010 and is expected to grow to nearly 13 jobs per acre (Business Wire 2010).

Outline of the Thesis

This thesis proceeds as follows: Chapter II frames the research conducted for this thesis within several key theoretical frameworks. It engages with the literature on political ecology, political economy of natural resources, and environmental governance as it relates to this research, and the gap in the literature that this thesis fills.

Chapter III presents the history of coal export terminal proposals in the PNW United States along with a detailed account of the development the Millennium Bulk coal export terminal permitting process. This chapter includes an EHC in the form of a timeline that illustrates the complex nature of the Millennium Bulk coal export terminal permitting process and places these events alongside external political and economic events. Statements from interviewees are also included in this chapter, framed within the context of major events in the Millennium timeline.

Chapter IV provides an overview of the different levels of laws and regulations that are applicable to the Millennium Bulk coal export terminal proposal and highlights the complex nature of federalism and the problem this has posed for the terminal's approval. This is developed further through an assessment of the extent to which these laws are hindering or facilitating the approval of the proposed terminal.

Chapter V identifies five main themes that have come to light from the evidence gathered from fieldwork, archival work, and document analysis and conceptualizes these themes and the Millennium permitting process within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance. This analysis reveals the extent to which social dimensions are being represented and incorporated into the decision-making process.

The final chapter begins with a summary of the arguments and main ideas presented in this thesis and uses the evidence presented in the previous chapters to support my concluding remarks. This chapter also addresses limitations of this research and presents a resource management recommendation and suggestions for future research.

CHAPTER II

LITERATURE REVIEW

Introduction

This thesis explores the complexities of the Millennium Bulk Terminal permitting process arising from the multiplicity of actors involved. Since the project's inception in 2010, Millennium has been unable to acquire the permits necessary for construction and has even entered into a federal lawsuit against the state of Washington, dividing residents in the surrounding community and across the nation. This research addresses the differences between the goals of competing actors, such as private industry, the Longview community, environmental groups, state agencies, and the federal government, when no compromise between economic growth and environmental protection can be achieved with fossil fuel infrastructure projects. Contextualizing the Millennium project within political ecological and political economic theory aids in uncovering the role of each interest group involved (i.e. federal and state governments, environmental groups, community members, and Millennium) and their conflicting goals, as well as the complex processes involved in the permitting of such projects.

The objective of this chapter is to lay the foundation that allows me to frame the Millennium terminal permitting process within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance by first performing a critical review of the relevant literature within these bodies of work. These theoretical frameworks also allow for a critical examination of the realized and potential localized consequences of infrastructure created as a result of the global production networks of fossil fuels (Bridge 2008). This thesis also explores the literature on

neoliberal environmental governance and presents the Millennium Bulk Coal Export Terminal project as an antithetical case study that deviates from the expected results of this body of work.

Theoretical Frameworks: Political Ecology, Political Economy of Natural Resources, and Environmental Governance

Political Ecology

One theoretical framework I employ in this thesis is that of political ecology, defined by Robbins (2004) as “empirical, research-based explorations to explain linkages in the condition and change of social/environmental systems, with explicit considerations of relations of power” (12). Political ecology is an interdisciplinary field of study that examines the relationships between nature and society, in its “bio-cultural-political complexity” (Greenberg and Park 1994, 1), and can be used to investigate issues such as land degradation, socio-environmental changes, and environmental hazards (Watts 1983; Blaikie and Brookfield 1987; Robbins 2004). The introduction of politics into studies of the environment provides a lens through which humans are seen as a part of nature rather than apart from nature, in a way that illuminates particular forms of environmental management and governance (Paulson, Gezon, and Watts 2003). Because political ecology aims to unpack the problems inherent within the relationship between society and nature (Robbins 2004), the negotiations between legal and social processes (i.e. the permitting and appeals processes and the reactions of the local community to legal decisions) and coal distribution infrastructure at the local level can best be examined using this framework.

The controversial nature of the Millennium project has resulted in a fractured community divided between the potential for economic growth and protection from environmental harm. This conflict is exemplary of a fundamental concern of political ecologists, such as what is seen in Himley's (2013) recollection of the social conflicts resulting from gold-mining operations in Peru and Perreault's (2006) account of protests against the privatization of drinking water and natural gas export plans in Bolivia. Delgado (2017a) also provides an account of the environmental degradation and socioeconomic harm created in a Venezuelan fishing community as a result of industrial solar salt production used for drilling operations by *Petróleos de Venezuela, S.A* and petrochemical production of polyvinyl chloride by *Pequiven*. Much of this conflict results from an uneven distribution of economic benefits and negative environmental externalities stemming from uneven power relations between corporations and local residents. There are varying degrees of social conflict; while a considerable amount of the political ecology literature on conflict examines physical violence as a consequence of natural resource extraction, particularly the violent consequences of oil extraction, referred to as petro-violence (Watts 1999; Zalik 2004), the conflict in Longview has emerged in the form of heated political and social debates as well as friction within the community. Tsing (2005) defines this friction as "the awkward, unequal, unstable, and creative qualities of interconnection across difference" (4) that "arise[s] out of encounters and interactions" (xi). Friction is a result of the incongruence of a multiplicity of perceptions, opinions, meanings, goals, and values (Blaikie and Brookfield 1987) within a community. When this friction occurs, it can often lead to "new arrangements of culture and power" (Tsing 2005, 5). It may appear that the social movements in opposition to the

Millennium terminal were successful in blocking its construction; however, I argue in Chapter V that it was not the local-level friction that resulted in the permit denials, but rather that the Washington state permitting agencies made their decisions for the purpose of furthering the state's environmentalist agenda in the face of a neoliberal Presidential administration.

Another focus of political ecological theory that is of particular relevance to this research is the link between land degradation and marginalization. Traditionally, Marxist views of nature and society idealize these two spheres as separate entities joined together by human capitalist labor, known as the *production of nature*, that results in degradation of the land (Castree 2000). Ecomarxist constructions of nature recombine nature and society together as two sides of the same coin and provide a framework for analyzing how societal struggles are embedded within their particular environmental crises (Castree and Braun 1998); for example, marginalization is both a cause and effect of land degradation (Blaikie and Brookfield 1987). Land degradation is a cyclical yet variable process, dependent on factors that include local geography, environmental characteristics, and economic status of the local community. It is a multifaceted issue with “plural perceptions, plural problem definitions, plural expectations, and plural rationalities” (Blaikie and Brookfield 1987, 16). It is possible that the discordant relationships that have arisen between private industry, community members, government officials, and environmental groups because of the Millennium Terminal permitting process are related to the plurality of social constructions of nature evident in this group of actors (Castree and Braun 1998), which has significant implications for how nature is treated and understood (Cronon 1996; Escobar 1998).

Marginalization of particular groups can occur as the result of disadvantageous environmental, cultural, social, economic, and/or political factors (Mehretu, Pigozzi, and Sommers 2000, 90). In the specific case discussed in this thesis, I argue in Chapter V that because Longview is an economically depressed area, community members are more willing accept the disproportionate burden of negative environmental externalities that comes with a massive coal terminal than members of wealthier, more politically powerful communities. As Chapter III of this thesis shows, residents of Longview seem to be fully aware of the environmental risk of housing what would be the largest coal export terminal in the country and are “concerned for the environment, as well, but poverty is a bigger killer” (quoted in Storrow 2018). While much of the work of political ecology uses Blaikie and Brookfield’s (1987) theories to ground case studies of land degradation and marginalization in communities at the site of natural resource extraction (Watts 2003; Billo 2012; Himley 2013; Delgado 2017b), these issues are not the outcomes evident in Longview currently since the terminal represents midstream infrastructure and has not yet been constructed. However, as explained in Chapters III through V, these potential impacts, particularly environmental degradation and public health risks, are the grounds on which the state of Washington has denied the project the necessary permits for construction.

Political Economy of Natural Resources

Environmental degradation is also analyzed through the lens of political economy of natural resources. Political economy of nature “explores the complex relationship between capitalist economic activity and the environment from the perspective of critical

social theory” (Delgado 2016, 44). This body of work critically examines the transformations of nature and society that occur as a result of complex capitalist processes and relationships, including “land as a factor of production, production as a process of material transformation, productivity and technological change, competition and the concentration of economic power, and geographical expansion” (Delgado 2016, 44), that create conflictive and contradictory resource geographies. This theoretical framework can be used to unravel the contradictions, originally developed by Marx (1967), inherent within capitalism and how the commodification of nature and natural resources leads to multiscale socio-environmental crises. Marx (1967) identified two crises of capitalism: overaccumulation and underconsumption. The first contradiction of capitalism rests on the propensity of capitalists to overaccumulate capital through the overproduction of goods and the underpaying of workers to the extent that the workers can no longer afford the goods being produced (Marx 1967). Once the environment becomes commoditized, capitalist accumulation of nonrenewable natural resources such as coal encourages the overworking of the land in order to maximize profits, an intensive process that inevitably leads to degradation of the land and the resource that enabled accumulation in the first place (Altvater 1990; Bridge 2000). This concept is known as the second contradiction of capitalism: “capitalist accumulation impairs or destroys capital’s own conditions of production” (O’Connor 1996, 207). Marx (1967) defines these conditions as the “mode of production and the labour-process itself” (221), or the combination of human labor, environmental conditions, and the economic organization of a society. This second contradiction “arise[s] from the confrontation between forces and relations of production which commodify nature and the ecological conditions on which

production depends but which nonetheless resists commodification” (Bridge 2000, 239). This then produces scarcity, which is “created by the marketing of nature” (Robbins 2014, 106). While these activities and consequences occur in other parts of the country, such as Montana and Wyoming, coal, like other fossil fuels, wreaks havoc on the immediate environment in which it is extracted and continues to toxify the land, air, and water as it moves along its production network. This is emblematic of what Delgado (2017a) refers to as the “extensive spatial reach” of fossil fuels, which produces “particular places of social and ecological distress at each stage of production along the hydrocarbon commodity chain” (333). The toxicity of coal at each stage lends itself to the creation and perpetuation of social injustices that rely on politically and economically marginalized communities to accept the negative externalities of this commodity without gaining the benefits ethically owed to them due to their level of risk. Auyero and Swistun (2009) illustrate how environmental and human suffering are the direct results of the power relations involved in the externalization of negative environmental effects in an Argentine shantytown surrounding a petrochemical complex, analogous to the Longview community that would house a massive coal export facility² that receives coal from uncovered rail cars and would store the coal in uncovered stockpiles (Cowlitz County 2017c, 18). These communities have little to no political power or economic means that would be necessary to reject these externalities on their own. Though the permits for the Millennium terminal were denied, I argue in Chapter V that it was not the community members in opposition of the project that resulted in this outcome, but rather the state

2. While it is clear that the social and economic conditions of Longview, Washington are not comparable to the conditions present in an Argentinean shantytown, the analogy emerges from the geographical location of each community to the fossil fuel development infrastructure present at each location.

blocked the project in order to further its environmental agenda. I use the concepts of capitalistic contradiction and marginalization embedded within political economy to develop a better understanding of why particular communities, like Longview, are willing to accept the capitalist structure that allows for the degradation of their environment.

One solution to the crises and contradictions latent in capitalism is what Harvey (1982) refers to as a *spatial fix*. Spatial fix involves “geographical expansion and geographical restructuring of capitalist activity in order to maintain economic growth” (Delgado 2016, 47). While spatial fix traditionally refers to the geographical relocation of extraction resulting from inaccessible or unprofitable resource deposits or environmental degradation beyond repair, this concept also applies to the purpose behind the construction of the Millennium terminal. A basic rule of economics states that when resource supply exceeds demand, prices drop. This leads to unprofitable price points for coal companies who are struggling to reach domestic energy consumers. In order to regain profitability, Millennium intends to spatially fix the problem of unprofitable markets in the United States by shipping coal to markets in Asia still exhibiting high demand and therefore maintaining the circulation of capital.

Combining the frameworks of political ecology and political economy of natural resources allows for a critical examination of the intricacies present in the political and social processes (i.e. the permitting and appeals processes and the reactions of the local community to legal decisions) that define and guide the development of fossil fuel infrastructure. This research focuses on the assemblage of various actors in these processes and the consequences of the resulting tensions; as Chapter III shows, the interaction between these actors has fostered division within and between internal and

external stakeholders caused by the plurality of opinions, rationalities, and values each stakeholder maintains in terms of economic growth and environmental degradation. The imbrication of political ecology and political economy grants a unique perspective on these consequences and tensions that arise in local communities as a result of a commodity placed within a global production network.

Environmental Governance

Within political ecology, environmental governance is an analytical conceptual tool used to explain the interconnectivity between formal and informal political, economic, and social norms, processes, and relationships that ultimately result in environmental management decisions (Bridge and Perreault 2009). This is reflective of the political ecological concern with the institutional determinants of who has access to and control over natural resources (Himley 2008). A prominent feature of environmental governance is the shift in focus away from state-centered decisions and toward the inclusion and interplay of a multiplicity of actors in the decision-making process. Scholars within environmental governance discourse seek to describe not only how decisions about nature are made, but also how these decisions and their practice create particular types of societies (Bridge and Perreault 2009).

A key discussion among scholars in environmental governance concerns issues with the rescaling of decision making, exemplified by the emergence of increasing numbers of lower-level (such as state- or city-level) governments carving out their own policies and initiatives to address larger global issues such as climate change traditionally governed by national politics (Bulkeley 2001). Scale is a dominant theme in political

ecology due to the fact that state boundaries are often arbitrarily determined by politics rather than by geography despite having little to no bearing on ecological or economic processes (Sayre 2015). According to Lemos and Agrawal (2006), the trend toward rescaling environmental decision-making to the sub-national level has three main advantages: increased efficiency due to competition among states; increased public participation and culpability resulting from more localized decision making; and increased use of local knowledge of the area's resources (303). The Millennium terminal represents the clash of interests at various scales (global, national, state, and city level) while also linking each of these scales. The terminal embodies the extensive spatial reach of fossil fuels as fixed infrastructure that would support the international export of a natural resource received from a discrete source in a politically bounded state whose consumption overseas would have global economic and environmental implications and is encouraged by national policy. Climate change, an environmental threat that dominates social, political, and economic discourse with growing fervor, has encouraged "the task of constituting the environment as a field for state action" (Robertson 2015, 457). However, as outlined in further detail below, the current presidential administration has virtually absolved the federal government of its responsibility to the environment, within and outside of the nation's boundaries. This is why states such as Washington have taken it upon themselves to establish policies and initiatives that support environmental stewardship and responsibility in order to mitigate the effects of global climate change and prevent local environmental degradation (Inslee 2018), leading to a difficult and strenuous permitting process for coal export terminals in the region. While not a deliberate transfer of power, the abdication of environmental responsibility at the national

level has rescaled the decision-making process as it concerns management of the environment to the states.

Other studies of environmental governance aim to describe the inclusion of informal political actors and spaces in the formal political decision-making process, particularly regarding environmental management concerns and decisions (Allen 2017). The core of these studies revolves around who has the access and the opportunity to participate in the discussion and make decisions. However, this participatory framework can also be used to conceal issues surrounding “justice, rights, and distribution” (Zalik 2004; Bridge and Perreault 2009). Residents of Longview are aware of the potential social and environmental ramifications of housing a coal export terminal in their port, and in order to persuade the community that its benefits would outweigh any harm, Millennium needs residents to feel like part of the process. While both NEPA and SEPA (national and state regulations) require public hearings and the opportunity for public comment (discussed in Chapters III and IV), Millennium has also been giving back to the community as a form of corporate social responsibility (CSR). CSR is a “self-regulatory mechanism...celebrated by proponents for both [its] flexibility and, ostensibly, [its] ability to induce corporations to ‘go beyond’ legal requirements” (Himley 2008, 446). These programs and donations that benefit the community³ are intended to make the relationship between the industry and the community more amicable and solidify a smooth integration of the industry into the community (Zalik 2004). However, engaging in CSR and public involvement in Millennium’s case is not a guarantee that permits will

3. In 2017, Millennium hosted a firefighter training program on-site (Luck 2017f) and donated \$10,000 to the Highlands Neighborhood Association for building renovations at a local community center (The Daily News 2017).

be approved, especially state-level permits that are not decided on a democratic basis, but rather on a scientific basis. When these decisions do not align with the voices of the community, it can be seen as intrusive and backed by a particular agenda, rather than in the interest of the people.

This thesis investigates why this particular case study does not seem to follow the typical trajectory of neoliberal environmental governance in the United States, as is seen in the deregulation and normalization of the fossil fuel industry. Neoliberalism is “characterized by strong private property rights, free markets, and free trade” with minimal state intervention (Harvey 2005, 2) intended to encourage capital accumulation and economic growth through the processes of, *inter alia*, “privatization, marketization, [and] deregulation and re-regulation” (Bakker 2015). These economic policies have been inextricably linked to environmental issues (McCarthy and Prudham 2003) and have been used to govern common property natural resources such as fisheries (Mansfield 2004), water (Bakker 2003), and ecosystem services (Robertson 2004) through the commodification of nature. This is also an example of the rescaling of environmental governance when governments relinquish their decision-making powers over natural resources to private industry through deregulation. Neoliberal policies under President Trump’s administration have seen the normalization and acceleration of fossil fuel extraction industries, yet the Millennium terminal, a midstream point in the coal production network, is not experiencing the same benefits. I argue in Chapter V that this is due not only to its specific location at the midstream point of the production network but also to the specific materiality of coal.

The materiality of natural resources refers to the biophysical and chemical properties of raw materials that create limits to or foster commodification of that resource and specific modes of circulation within a capitalist system (Barham, Bunker, and O'Hearn 1994; Boyd, Prudham, and Schurman 2001; Bridge 2004; Delgado 2017a). For example, Bridge (2004) discusses the evolution of the use of natural gas. Natural gas has not always been considered a resource; until fairly recently it was a waste product that was burned off into the atmosphere via flaring. Its specific materiality made it difficult to capture and store, let alone transport, for use elsewhere as an energy resource.

Technological innovation has transformed natural gas into an international source of energy through liquefaction, showing how the capitalistic economy has figured out a way to add value to an otherwise wasted resource profitably by reconfiguring its natural state. Similarly, Delgado (2017a) argues that it is the specific characteristics of oil and natural gas that have allowed them to permeate throughout social, political, economic, and environmental spheres and become a multitude of valuable goods with implications in each of these spheres. Coal as a raw material does not have any inherent value; it is its transformation from matter to energy that creates a use-value that renders it a valuable commodity, though this transformation has vast implications for environmental and public health. As this thesis shows, the specific materiality of coal also lends itself to specific modes of transport, also with implications for environmental and public health, that have become a crux behind community concerns and state government actions.

The commodification of natural resources also occurs within particular natural and political environments. Krueger's (2002) work on the evolution of the gold mine permitting process in Montana illustrates how the mining industry has experienced major

reform due to a simultaneous push toward neoliberal governance and a pull away from environmentally destructive industries. These reforms took place not in explicit legislation, but rather through involving the public in the decision-making process as well as the extension of the duration of the permitting process, particularly the environmental impact assessments, to the extent that the passage of external legislation that negatively affects the industry can interfere with permit approval. The permitting process that was once a means to enable the extraction of natural resources in the United States has since become an opportunity to thwart the progression of the same extraction. This is also evident in the coal industry, which has been unsuccessful in obtaining permits for export terminals in Washington. Some researchers attribute this to the “desire for a full and comprehensive analysis of the impacts of these projects ... not just locally, but now globally” (James C.⁴, 6 August 2019, telephone interview). By this logic, it is not only at the point of extraction that capital accumulation can falter, but also at the midstream point, illustrating how the coal export terminal permitting process is a “point of mediation between capital accumulation and regulatory politics” (Krueger 2002, 869). This has resulted in a hinderance in coal export companies’ intentions to spatially fix (Harvey 2003) the problem of declining domestic markets through the acquisition of international markets.

The state-level struggle that coal export companies are experiencing is in direct contradiction to the goals of President Trump at the national level, who is applying neoliberal policies in order to encourage the extraction of coal to supply international markets. For instance, almost immediately following his inauguration, President Trump

4. Names of interviewees have been changed to protect their identities.

released EO 13771, mandating that for every new regulation imposed, two regulations must be eliminated (Trump 2017a). This is characteristic of neoliberalism in terms of deregulation and the transfer of responsibility to private corporations to act responsibly. In addition to replacing the CPP with the ACER (EPA 2019), President Trump has also proposed eliminating regulations that require coal plants to capture carbon emissions (Friedman 2018a), weakened limitations on mercury emissions from coal-powered plants (Friedman 2018b), initiated the process of lifting the freeze on new coal leases (Davenport 2019), and ordered a review of the limit of coal dust levels in mines (Popovich 2018). Additionally, President Trump has revoked the Stream Protection Rule intended to protect waterways from coal mining waste dumping (*Chicago Tribune* 2017) and rolled back restrictions on hazardous coal ash disposal and storage (McCoy and Bloomer, 2017). These deregulations efforts specific to coal are only a small sample of the continuously growing list of environmental regulations that President Trump has successfully eliminated or weakened or is in the process of doing so (for a full list, see Popovich, Albeck-Ripka, and Pierre-Louis 2019). It is clear that the target of many of these rules are either on the extraction phase or the consumption/burning phase as an attempt to accelerate these processes and increase profitability rather than on the transport or export phase, which is why Millennium is still struggling to gain permit approval despite President Trump's commitment to deregulation.

Conclusion

This chapter briefly summarized the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance. Political ecology

allows me to examine the effects of social conflict fueled by the fear of environmental degradation and need for economic growth on state government action to deny the Millennium terminal. Political economy of natural resources also provides me with a lens with which to view the potential consequences of environmental degradation on a marginalized community like Longview. This framework also aids in the identification of the contradictions of an infrastructure project like Millennium's who intends to spatially fix the problem of underconsumption. Environmental governance theories allow me to investigate the effects of informal political actors on the Millennium permitting process, as well as how the clash of interests of multiple levels of government materializes in the legal process. This body of work also provides the necessary conceptual tools needed to examine the effects of neoliberalism and the materiality of coal on the Millennium permitting process. The following Chapters III and IV build on this theoretical foundation by providing a detailed historical account and legal assessment of the Millennium permitting process. Chapter V brings the chapters before it together in a critical conceptualization of the permitting process within the theoretical frameworks discussed in this chapter.

CHAPTER III

DEBATE OF THE MILLENNIUM

Introduction

Because of the PNW's geographical location on the western coast of the United States, the region is an attractive place for coal companies interested in developing export infrastructure that would enable entry into Asian energy markets. However, this means that the state and local governments in this area have become responsible for making difficult decisions involving the dichotomy between economic interests of private industry and their own environmental ethos that could have spatially extensive and temporally lasting implications. For example, Millennium's potential capacity to export coal to Asia would spatially extend the environmental consequences of the terminal from the PRB abroad and everywhere in between. Additionally, these consequences would exacerbate the effects of climate change, with both immediate and long-lasting impacts. For many residents of the area, these terminals represent the export of pollution. For others, these terminals represent a chance at economic stability.

This divisiveness between environmental protection and economic gain, illustrated throughout this chapter, is an example of the type of conflict studied by political ecologists (Watts 1999; Zalik 2004; Perreault 2006; Himley 2013; Delgado 2017a). As this chapter shows, this conflict manifests itself as friction (Tsing 2005) within the community. The social movements that result from this friction, however, do not appear to be the crux behind Washington state permitting decisions, as is often the case in environmental justice issues. For example, the mobilization of community

members in response to poor working conditions at a local Peruvian coal mine prompted the state to take action to improve such conditions (Himley 2013). Despite the extensive involvement of informal political actors from the public, it is the potential for environmental degradation, another pillar in political ecology (Auyero and Swistun 2009; Delgado 2017a; Delgado 2017b; Frantál 2017; Delgado 2018), as the result of this project that is the driving force for the state's permit denials because this is in clear conflict with the state's political agenda. In fact, local permitting agencies are more likely to approve permits in this case because of the project's potential to bring revenue to the area despite the environmental harm that will inevitably come with it. This conflict of scale (Bridge and Perreault 2009) that emerges from the contradictory views of multiple actors at different levels of government, like environmental governance literature explores, is just one thread in a complicated web of opposition.

Another key theme in this chapter is the extensive spatial reach of fossil fuels, critical in political economy of fossil fuels, and how much of this reach should be incorporated into environmental reviews of coal export projects. The Millennium project is emblematic of such a reach, taking a domestic commodity and attempting to spatially fix the problem of unprofitable domestic markets for that commodity by shipping it overseas. As this chapter shows, a major debate within the Millennium conflict is whether its extensive spatial reach—the implications of this project at a global scale such as the impact on climate change that consumption of coal abroad will have—is within an appropriate scope of analysis for an environmental review.

The difficulties these types of infrastructure projects face have led to federal deregulation efforts as part of the President's neoliberal policies intended to encourage

growth in the fossil fuel industry and end the war on coal. These policies (such as EO 13771 and the ACER) also attempt to strip power away from the states in governing their natural resources. As of yet, these neoliberal attempts to push these projects forward have not proven successful in the PNW.

This chapter provides a historical account of coal export in the PNW of the United States and explores the ways in which the region has resisted the neoliberalization and subsequent normalization of the coal export industry. This resistance, known as the “thin green line” (Sightline Institute 2019), has been fueled by the desire for environmental protection and conservation both at the individual level as well as the state level, who has particular incentive behind denying these projects in order to further their climate-change focused political agenda. This chapter also provides a timeline adapted from an EHC as a visual representation of the development of the Millennium Bulk coal export terminal and aims to provide objective context for an analysis (see Chapter V) within the theoretical frameworks presented in Chapter II. Regulatory and legal frameworks presented in this chapter are discussed in further detail in Chapter IV.

This chapter demonstrates that the Millennium project is particularly complex with such an extended duration, nearly a decade, because it is caught between the interests of different scales of government, stark divisiveness within the community, and intense opposition from environmental groups. To show this, this chapter is divided into two sections. The first section presents a brief history of coal export project proposals in the area, all of which have met their demise. The second section narrows in specifically on the Millennium project, tracking permit applications, approvals, denials, and appeals, as well as the many lawsuits that have arisen in the process. The subsections with Section

II each culminate with a timeline of events in order to more easily follow the convoluted permitting process and to provide a foundation for subsequent chapters.

The Thin Green Line: Coal Export in the Pacific Northwest

Coal leaves a horrible scar on the land and an even worse scar on the atmosphere. It was put there by nature in the ground and was meant to stay there.

- Derek F., 6 July 2018, interview

The price of coal exports had been steadily increasing from the mid-2000s until 2010, signaling to coal companies that such a business would be favorable (EIA 2011a) (Figure 3). Indeed, in 2010, the United States saw increases of 38.3% in coal exports (Figure 4) due to both the interruption of global coal supplies resulting from natural disasters in the Pacific Rim countries like Australia, Indonesia, and Colombia and the lack of sufficient domestic supplies in Asia (EIA 2011b). The proposed Millennium Bulk coal export terminal was one of the first of its kind to emerge in the PNW and attempt to capitalize on this market in 2010. I provide a detailed discussion in Section III. Table 3 at the end of this section summarizes the project proposals in the PNW.

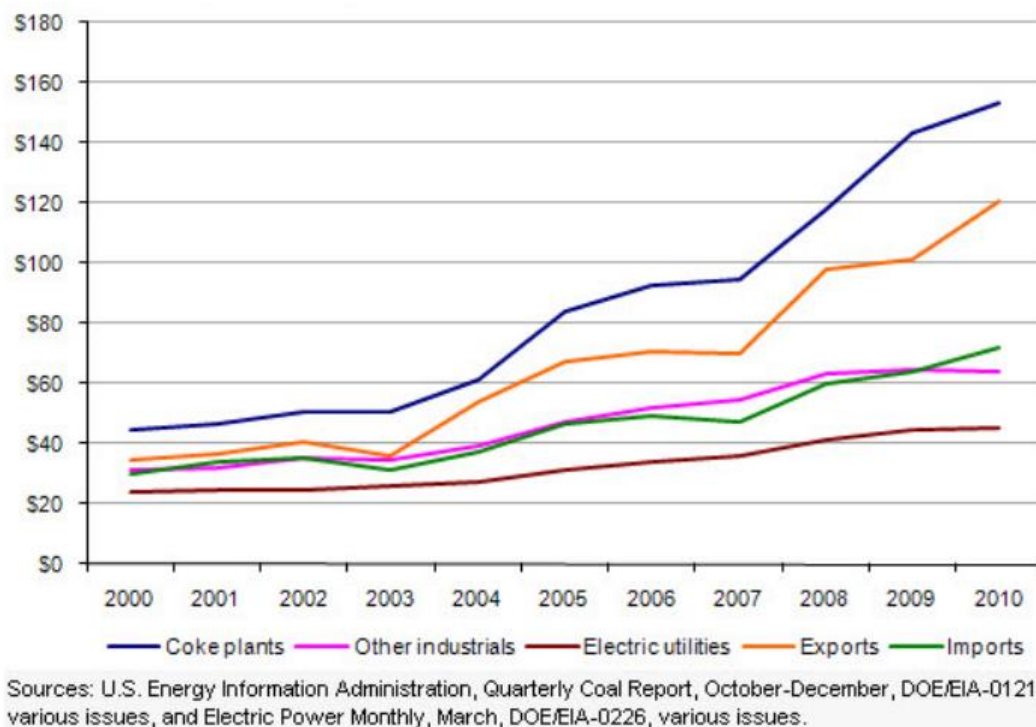


Figure 3. Delivered coal prices, 2000-2010 (nominal dollars per short ton) (EIA 2011a)

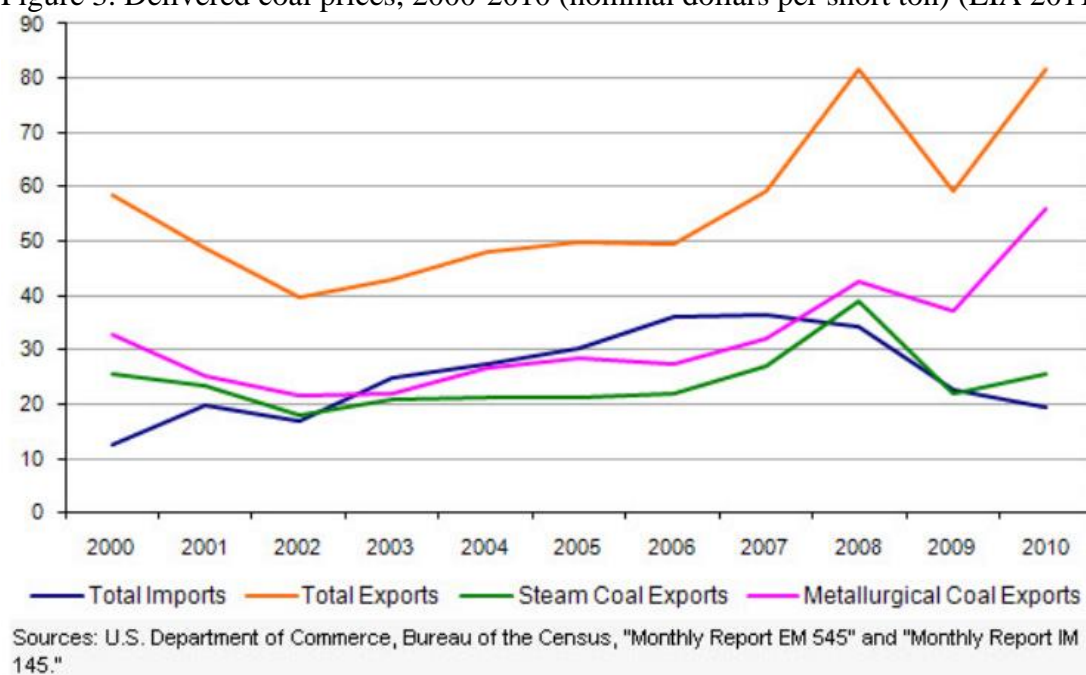


Figure 4. U.S. coal imports and exports, 2000-2010 (MMst) (EIA 2011b)

The Port of Grays Harbor was the target for coal export in 2011 when RailAmerica publicly announced its intentions to turn a former log yard in Hoquiam, Washington into a coal export terminal (*The Columbian* 2011). The developers were aware that the project would take several years of planning and environmental review, but only a year later, RailAmerica announced they were withdrawing their plans for coal export because they believed that there were “other uses and other opportunities for that terminal that are much more likely to generate jobs, economic development, [and] tax revenues” (quoted in Lafontaine 2012). This withdrawal came at a time when coal prices and production had dropped dramatically following displacement by natural gas (EIA 2013b), signaling to the developer of the Grays Harbor terminal that coal export may not be as economically viable by the time the terminals came to fruition.

Despite the state of coal prices at the time, two more plans for coal export terminals in Oregon were approved in the summer of 2012 when Port of St. Helens commissioners granted leases to two separate developers, Kinder Morgan in Clatskanie and Ambre Energy, a former parent company of Millennium Bulk, at ports in Boardman and Clatskanie. These approvals were met with outrage by residents and environmental groups, who disparaged the fact that a promise of early public debate was never fulfilled (Learn 2012). A third terminal was proposed for Coos Bay, Oregon by Metropolitan Stevedore Co. The Kinder Morgan and Metropolitan terminals were met with the same fate as the Grays Harbor terminal in 2013. Both companies withdrew their plans, the former claiming it was due to the lack of appropriate siting (Learn 2013a) and the Port of Coos Bay ending their exclusive negotiating agreements with the latter (Learn 2013b). Ambre Energy, in a move that would become characteristic behaviour of the company

and its subsidiaries, claimed that Oregon’s Department of Environmental Quality (DEQ) was “unfairly delaying [air quality] permits that would create jobs” (Learn 2013c) while the DEQ examined thousands of public comments on the project. The DEQ initially stated that Ambre need not apply for air quality permits since the coal transfer and storage areas would be—uncharacteristically—covered, though they later backtracked on this decision (Learn 2013c). In a fatal blow to the terminal, the ODSL denied Ambre a key removal-fill permit in 2014 based on the expected damage to tribal fisheries (Davis 2014). Ambre’s appeal of this denial was unsuccessful (Culverwell 2014).

Perhaps one of the more infamous coal export terminal projects proposed in the PNW is the Gateway Pacific Terminal (GPT) at Cherry Point near Bellingham, Washington. This project currently has the longest-running permitting timeline of coal terminals in the region, with associated activities for development of the terminal dating back to the 1980s. In 1991, Pacific International Terminals (PIT) submitted an application for the construction of a pier for the GPT project (Westmar Consultants 1991), which they described in general terms as a bulk import-export facility (Aqua-Terr Systems 1996). With a determination of significance from Whatcom County, PIT completed their SEPA FEIS within two months of its draft EIS (DEIS) (Whatcom County 1996; 1997) and received the necessary Shoreline Substantial Development permit and Major Development Permit in 1997 (Bobbink 1997). The nearby Lummi Nation and Nooksack Tribes shared early concerns about the project, particularly regarding marine degradation and the impact the project would have on their fishing rights protected by the Treaty of Point Elliot of 1855 (Cagey 1997; Griggs 1997).

The project did not gain much traction in public debate until 2011 when PIT submitted applications for water quality permits (PIT 2011) but was faced with increased public concern and growing opposition due to negative environmental and public health impacts (Snapp 2011; Holder 2012; Whatcom Docs 2012). The developer also received penalties for unpermitted land clearing that year (Whatcom County 2011) and was caught violating the Clean Water Act (CWA) by engaging in construction activities without the necessary stormwater permits (Baumgarten 2011). The nearby Lummi Tribe remained a dominant voice of “unconditional and unequivocal opposition” (Ballew II 2013) to the terminal, asserting their “duty to their ancestors, elders and future generations to protect and preserve the Cherry Point area” (*Bellingham Business Journal* 2012).

In 2012, PIT needed to restart the EIS process due to changes in the original proposal (USACE 2012a). Ultimately, four years later, the USACE denied a crucial permit after they “determined the potential impacts to the Lummi Nation’s usual and accustomed fishing rights from the proposed GPT are greater than de minimis” (USACE 2016c), leading to the withdrawal of permit applications for the terminal the following year (Gallagher 2017).

Many environmental groups such as the Northwest Wildlife Federation and the Power Past Coal Coalition believe that their efforts to rally public opposition to coal export have been crucial to quelling the coal industry’s interest in pursuing development in PNW (Lafontaine 2012) since no additional coal export terminals have been proposed since 2012. One representative of an environmental group that has been extensively involved in the fight against coal export terminals in the PNW owes this to “raising public understanding of the health impacts of coal exports [which] really did galvanize

peoples' understanding of what these impacts would be to the local community” (Benjamin S., 17 July 2018, telephone interview). The social and political opposition to coal export projects in the region, including citizen protests and city-wide resolutions against coal, is representative of the “thin green line” of resistance against fossil fuels (Sightline Institute 2019). However, proponents fear that coal export terminals will exist in the future, only they will be located in Canada, leading to the same environmental and public health consequences from coal train traffic but without the economic growth (Learn 2013a).

The persistent blocking of coal export terminals in the PNW comes in direct contrast to President Trump’s goal of “American energy dominance” (quoted in Cama and Henry 2016), which he aims to achieve by focusing on the expansion of fossil fuel extraction. In response to the repeated withdrawal of coal export projects and in support of American energy dominance, the Trump administration has proposed a way to circumvent environmental regulations by using military bases on the West Coast to export coal (Groom 2018). Some environmentalists believe this proposal is motivated by the intent to “restrict opportunities for public participation in siting decisions” (Olson-Hazboun and Boudet 2019).

As the rest of this chapter shows, Millennium is trying to surpass the Thin Green Line by appealing to the federal government. If the appeal and federal lawsuit take long enough, it is possible that President Trump’s deregulation efforts may be able to take hold in time to see the project through.

Table 3. Coal export terminals proposed in the Pacific Northwest

Developer	Location	Year Proposed	Year Withdrawn	Reason for Withdrawal
RailAmerica	Hoquiam, WA	2011	2012	Withdrawn due to economic unviability.
Kinder Morgan	Clatskanie, OR	2012	2013	Withdrawn due to inappropriate site logistics.
Metropolitan Stevedore Co.	Coos Bay, OR	2012	2013	Port of Coos Bay ended exclusive negotiating agreement.
Ambre Energy	Boardman and Clatskanie, OR	2012	2014	ODSL denied removal-fill permit due to impacts to tribal fishing.
Pacific International Terminals	Cherry Point, WA	1991	2017	USACE ruled project non-permittable due to impacts to tribal fishing.
Millennium Bulk Logistics	Longview, WA	2010	—	Ecology denied Section 401 certification in 2017, federal lawsuit in progress.

Source: Compiled by the author with data from Westmar Consultants 1991; Anchor QEA 2010; *The Columbian* 2011; Lafontaine 2012; Learn 2012; Learn 2013a; Culverwell 2014; USACE 2016c; Bellon 2017a; *Lighthouse Resources v Jay Inslee* 2018

Terminal 6: Millennium Bulk

We have local political leadership which is willing to listen to any project that comes in the door. We have been considered a lower-income and under-employed county for this area and that makes us a target for a lot of those projects which will tout jobs as though jobs were the only justification.

- Dana L., 10 August 2018, in-person interview

The Millennium Bulk terminal is the last coal export terminal still fighting for its life in the PNW. In a battle for permits that has taken nearly a decade, Millennium is

relying on the federal courts to revive the coal export industry's goal of establishing the PNW as a gateway to the Asian energy market. This section provides a chronological account of the Millennium Bulk coal export terminal permitting process from its inception in 2010 to the present date, highlighting points of contention, steps in the permitting process, permit approvals and denials, and external events taking place in the political and economic sectors that provide context for the aforementioned events.

A Golden Opportunity for Blue Collar Workers

Millennium Bulk, at the time a subsidiary company of Ambre Energy North America, Inc⁵., entered the coal export arena in September 2010, when the company filed their initial Shoreline Substantial Development Permit applications with the Cowlitz County Commissioners for a terminal expected to export approximately five million tons of coal annually. Receipt of this permit would allow Millennium to make improvements to existing dock structures at the site as well as build new infrastructure related to the loading and storage of coal and commence dredging of the Columbia River in order to facilitate vessel passage⁶ (Anchor QEA 2010; Millennium Bulk Logistics Inc. [MBL] 2010). The following month, Cowlitz County issued a Mitigated Determination of Non-Significance (MDNS), which outlined over one dozen conditions of mitigation required to be fulfilled by Millennium but did not mandate the completion of an EIS per SEPA

5. Ambre Energy, Inc was an Australian coal mine company focused on coal mine acquisition and operation and coal export terminal development. Ambre Energy North America was a former US subsidiary (Ambre Energy Limited 2019) who later changed its name to Lighthouse Resources, Inc, currently Millennium's parent company (Lighthouse Resources 2015)

6. The dredging portion of the permit application was later removed and Northwest Alloys, Inc, owned by the same parent company as Millennium, filed permits for this action separately as unrelated to the terminal project.

guidelines. In November 2010, in response to a multitude of public comments on the MDNS, Cowlitz County released a Modified Mitigated Determination of Non-Significance, intended to clarify several of the mitigation conditions but still upheld its decision that the project would not have significant adverse effects on the environment (Cowlitz County Department of Building & Planning 2010). On 23 November 2010, Millennium's shoreline permits were unanimously approved by the Cowlitz County Board of Commissioners based on the lack of significant impact on the environment the project was purported to have (Olson 2010). It did not take long for several prominent environmental groups to file an appeal of these permit approvals on the grounds that the judgement of no significant impact was unfounded and therefore in violation of SEPA, which would have otherwise required an EIS (Earthjustice 2010). They feared that the approval of projects such as the Millennium terminal would undermine Washington state's values of climate change mitigation and sustainability (Hasselman 2010). Ecology, another permitting agency, intervened in the appeal "to ensure that its comments, especially as they relate to greenhouse gas analysis, are adequately addressed" (quoted in *The Oregonian* 2010).

While Millennium awaited the appeals decision, in January 2011, the company invested \$10.9 million to purchase the existing buildings and equipment left from the previous operations of Reynolds Metal Co. (Ambre Energy Limited 2011), an action that showed that the company was moving forward in acquiring the property despite not

knowing what the decision on the appeal might be. That same month, Arch Coal Inc⁷ (2011) announced it now had a 38% stake in the company.

In February 2011, Millennium's intentions were placed under the microscope of the public and the Cowlitz County commissioners when internal company emails revealed that the company had plans to export as much as sixty million tons of coal, an amount much greater than the five million tons their shoreline permits had been approved for. These emails contain disturbing language, suggesting that the project is at "too sensitive a juncture" to publicly announce expansion plans, which would present too great a "risk to the current permit path" (Hobbs 2010, in Olson 2011a) and as such, these plans "should not be made available to any outside party" (Torkington 2010, in Olson 2011a). Construction of the terminal could only be completed during what is known as the "fish window," which is the critical period of time between October and February during which salmon in the Columbia River would suffer the lowest levels of impacts (Murphy 2010). This placed external pressure on Millennium to acquire permits and begin construction as soon as possible, without straining political relationships by withholding critical information about their expansion plans. Ironically, attached to Millennium's original application for the shoreline permits is their company overview, which specifically articulates the company's commitment to transparency and open public engagement (MBL 2010). With what opponents of the terminal thought would be a smoking gun, the appellants in the case hoped these allegations would encourage the overturning of the shoreline permits. Many community members felt that they had been

7. Arch Coal Inc is the second largest coal supplier in the United States with mines in the Midwest and Eastern United States, including the PRB mines (Arch Coal Inc 2019).

deceived by the company and that Millennium had misled the Cowlitz County commissioners by not conveying the full scope of their plans for the terminal (LaBoe and Lystra 2011). To make matters worse, additional emails from Ambre Energy's CEO released not long after the first set of internal company emails revealed plans to export up to eighty million tons of coal annually (Olson 2011a). The release of these emails "was the big eye-opener for a lot of the community ... that the company had intentions of making this the largest coal export terminal in North America, that did change the whole dynamic and people felt that there was not a whole lot of honesty coming from the company" (Benjamin S., 17 July 2018, telephone interview).

This scandal ultimately led Millennium to withdraw its shoreline permit applications in March 2011 and express their intentions to complete an EIS and resubmit their application in an attempt to "show [their] continued commitment as a good neighbor" (quoted in Murphy 2011). This withdrawal meant temporary victory for the environmental groups in the appeals case, who subsequently dismissed their appeal (Environmental & Land Use Hearings Office 2011).

While Millennium had to go back to square one and make plans to resubmit their application, they took to the ground to begin clean-up at the former Reynolds site (Olson 2011b). However, nearby community groups retaliated against this supposed good deed, giving notice in August 2011 that they planned to sue Millennium for violating the CWA by failing to obtain permits for stormwater and wastewater disposal that would allow them to handle materials at the site during cleanup (Olson 2011c). Though Millennium insisted they were not in violation of the CWA, two months later, the company agreed to

a \$50,000 settlement in addition to making adjustments to its current coal handling and storage operations (Stepanowsky 2011).

Figure 5 shows the major events that took place in the beginning of the Millennium permitting timeline from September 2010 through September 2011. As the following sections show, this was only the beginning of a very long and contentious legal battle between Millennium, environmental groups, and the Longview community.

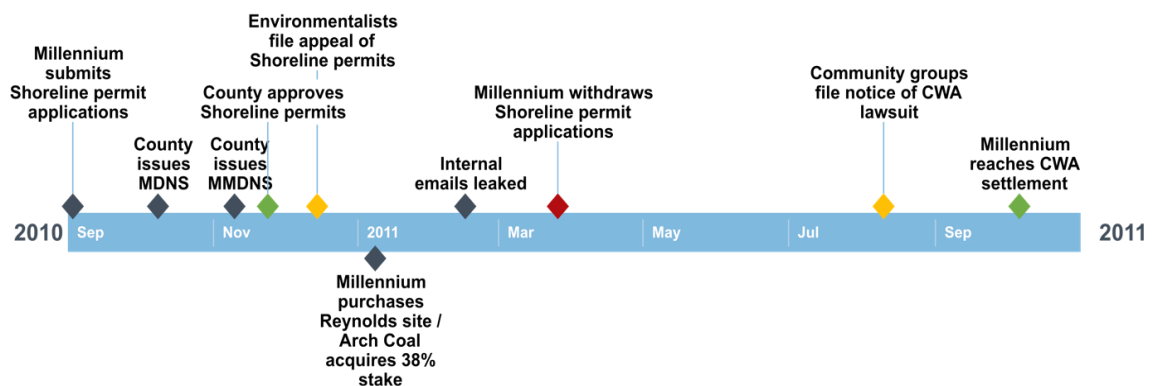


Figure 5. Millennium permitting timeline 2010-2011

Round 2: The Environmental Review Process Begins

Nearly a year after withdrawing their original shoreline permit applications, on 23 February 2012, Millennium submitted a Joint Aquatic Resources Permit Application (JARPA) in hopes of finally acquiring those shoreline permits as well as a Section 401 Water Quality Certification from Ecology and Section 404 and Section 10 permits from the USACE⁸ (Millennium Bulk Terminals Longview [MBTL] 2012, 19). This time, the applications suggested the terminal is expecting forty-four million tons of coal annually rather than the sixty to eighty million it was rumored to have the year prior, though this

8. Millennium later withdrew this request for Section 401 Water Quality Certification in early 2013 and resubmitted their application after completion of the EIS.

number still dwarfs its initial plan for five million tons. In an attempt to avoid the legal battle created over the question of an EIS, the JARPA stipulates Millennium's agreement to complete such an assessment.

The timing of Millennium's resubmission would appear to be fruitful for the progression of the terminal. In March 2012, President Obama issued Executive Order 13604, whose goal was to expedite and make more efficient the federal permitting process of major infrastructure projects without sacrificing protection for public health and the environment. This executive order requires that "all relevant permitting agencies, key stakeholders, and the project proponent come to the table early and put their plans and concerns on the table" (Hayes 2012). In this way, each of these groups can coordinate together on all issues, including mitigation, at once, allowing for a more efficient and transparent permitting process. Combined with the news that China, the world's leading coal importer at that time, was planning to cap its coal production at nearly four billion tons in the next few years and may be cut off from its Indonesian suppliers who needed to supply their own growing demand (Olson 2012), meant that Millennium had the potential to arrive more quickly at its target market.

However, in June 2012, the Washington State Democratic Convention (WSDC) passed a resolution that called for permitting agencies to produce a Programmatic Environmental Impact Statement (PEIS) of all proposed and future terminals that investigate the cumulative, rather than just local and direct, impacts of coal export terminals from mining to shipment on all communities directly affected by their

construction and operation⁹ (WSDC 2012). Proponents of the terminal (and other coal export projects) argued that this type of assessment is not appropriate for discrete infrastructure projects and that the cumulative impacts assessed in individual projects' EISes provides enough adequate information to decision makers (Ginsberg 2012; Lynn 2012). However, calls from communities along the rail lines demanded that the effects of increased rail traffic and airborne coal dust in these communities be considered in the EIS (Corvin 2012). This resolution was seen as a blatant attack on coal export intended to extend the duration of the permitting process.

By the fall of 2012, Cowlitz County, Ecology, and USACE, the agencies responsible for approving local, state, and federal permits, announced that they would be coordinating in a joint environmental review to conduct an EIS for the Millennium terminal under both SEPA and NEPA due to a determination of significance (USACE 2012b). However, it took nearly a year to engage in the first stage of the SEPA and NEPA EIS processes: the scoping period. The intent of the scoping period is to determine the scope or range of environmental impacts to be assessed in the EIS. During this period between August 2013 and November 2013, the public could submit comments on the proposed project through a variety of media, including online or by-mail submissions or during public meetings. There were five public meetings between September and October 2013 in various cities across the state of Washington. Scoping is a major source of conflict for the Millennium terminal, with vehement disagreement about how much of the extensive spatial reach of coal, particularly whether or not global environmental

9. This resolution also requires the inclusion of a Health Impact Assessment and an Economic Impact Assessment in a project's EIS.

implications of the terminal, such as GHGe and climate change, should be considered in environmental reviews. Despite the controversiality of the terminal and the clear animosity between the two sides, participants of the public hearings, clad in red or blue shirts depending on whether they opposed or supported the terminal, conducted themselves with little aggression (Figure 6). Outside of the hearings, people posted signs and handed out pro- or anti-coal paraphernalia (Olson 2013). By the end of the scoping period, Millennium had received over 215,000 comments (ICF International 2014, 3-1).



Figure 6. Millennium Bulk scoping public hearing in Ridgefield, WA (photograph taken by *The Columbian* 2013)

By this time, President Obama had already announced his Climate Action Plan, which aims to lower carbon emissions that threaten public health and lead to climate change by imposing more limitations on carbon pollution, financing infrastructural repairs and improvements to better mitigate the effects of climate change, and encourage international cooperation on a global level (Obama 2013). In line with this plan,

opponents of the terminal received a win in February 2014 when regulators announced they would be conducting environmental assessments beyond the immediate scope of the project to consider its impact on global climate change as well as local communities along the rail lines (*Seattle Times* 2014). This decision allowed for the commencement into the second stage of the EIS process which requires data collection and analysis to be later included in a DEIS, expected to be released in 2015. Proponents of the terminal, including Cowlitz County commissioners, believed that such a broad review would put the area in “economic jeopardy,” but Ecology officials maintained that the review is for environmental, not economic, purposes and necessary in order to make permitting decisions (Phiel 2014b).

As the end of 2015 approached, Ecology announced a delay of the release of the DEIS until the following year, troubling those anticipating the economic growth the terminal is expected to bring (*The Daily News* 2015). Kris Johnson, president of the Association of Washington Business, lamented that “Washington’s regulatory process has become longer and more uncertain, which sends the wrong message to employers. We ... remain concerned other companies will not be willing to tolerate the delays of Washington’s permitting systems and will not bring the needed investment to our state” (Johnson 2016). This is reminiscent of the reform discussed by Krueger (2002) that took place in the gold-mining industry in Montana (see Chapter II), whose permitting process became increasingly difficult to complete. An expanded discussion of this issue is presented in Chapter V.

The SEPA DEIS was finally released in April 2016, four years after Millennium restarted the permitting process, which evaluated twenty-three environmental resource

areas and found that twenty-one of those areas would be negatively affected, with “unavoidable and significant adverse impacts” (CC&E 2016b, 2) on nine of those areas, including cultural and tribal resources, rail transportation and safety, vehicle and vessel transportation, noise and vibration, and GHGe (CC&E 2016b, S-40). While opponents of the terminal were satisfied with this conclusion, some environmentalists believe that the report’s suggestions for mitigation were insufficient or absent and that the report fails to adequately consider impacts on communities affected by extraction and rail transport (Columbia Riverkeeper 2016). The public comment period for the DEIS was open from 29 April 2016 through 13 June 2016, during which three public hearings were held (CC&E 2016c).

In September 2016, the USACE released its NEPA DEIS, two months after their projected deadline. This report would also serve to determine permitting decisions under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Several aspects of the report stand out: tribal fishing will not be adversely impacted by terminal operations (a concern that resulted in the demise of the GPT) and GHGe resulting from consumption of the coal it exports and impacts on communities along the rail lines were not included in the scope of the analysis. Instead, only direct and local impacts from the terminal’s operation were considered (USACE 2016a). The USACE held two public hearings in October, with the comment period open until the end of November 2016 (USACE 2016b). The EPA, who had been cooperating on the EIS with the USACE since 2014, called the NEPA DEIS “inadequate,” citing “an inappropriately narrow scope” of analysis that “misses the biggest impacts” while “considering a broader scope of benefits” (McLerran 2016, 2-8). According to a government official, only one percent of

EISes completed receive an inadequate rating (Peter E., 24 August 2018, in-person interview). However, the USACE asserts the scope of analysis was “totally consistent with our national program’s policy” and they are “on [their] way to resolving [the EPA’s] concerns” should a FEIS be published in the future (Gregory A., 28 September 2018, telephone interview).

Figure 7 covers four years of the Millennium permitting process from when Millennium submitted the JARPA in February 2012 that triggered the SEPA and NEPA processes until the end of 2016 when both DEISes were released. This period is predominantly marked by these environmental review processes, during which virtually no significant events took place. As the next section shows, this proves to be the calm before the storm created by the findings of these reviews.

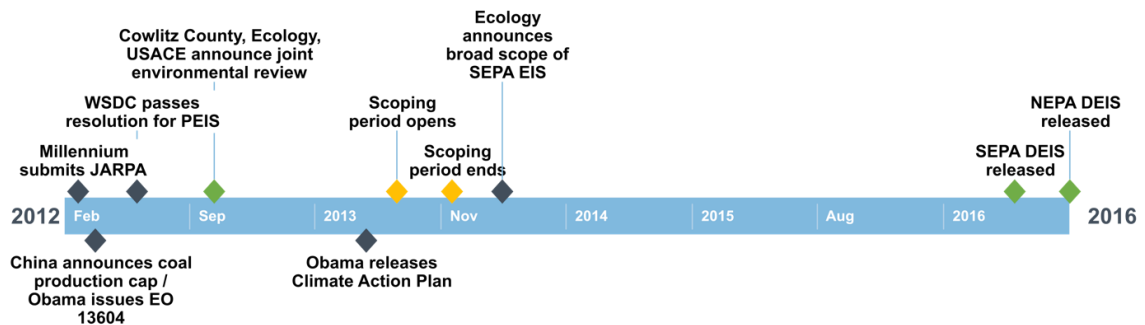


Figure 7. Millennium permitting timeline 2012-2016

A Loss and a Win for Millennium

While not associated directly with the permitting of the project, Millennium needed to obtain an aquatic lands sublease from the Department of Natural Resources (DNR) for the site, which is currently leased until 2038 by Northwest Alloys (NWA), another subsidiary of Millennium’s parent company. However, DNR Commissioner Peter

Goldmark denied Millennium’s sublease application just days before he left office in January 2017 (Bernton 2017). Goldmark’s decision was based partly on his motive to “protect state-owned aquatic lands” (quoted in Profita 2017), but also on Millennium’s lack of disclosure regarding financial information about the company (Profita 2017). The exclusion of this information was troubling considering Arch Coal, who acquired a 38 percent stake in the company in 2011, declared bankruptcy a year prior (Miller and Brickley 2016). Goldmark also cites Millennium’s grave 2010 mistake in failing to provide accurate information about the expected capacity expansion of the terminal in its original shoreline permit applications as a reason for his close scrutiny of Millennium’s “suitability as a subtenant” (Goldmark 2017, 3).

Though Millennium’s CEO at the time, Bill Chapman, asserted the progression of the project would be unphased by this denial (Bernton 2017), on 2 February 2017, Millennium and NWA filed an appeal of the aquatic lands sublease denial as a “cautionary measure” (Luck 2017a) for “adversely affect[ing] NWA’s property rights and its ability to continue to operate its business” (*Northwest v DNR 2017*, 6). The two companies insisted that they provided substantial information at the requests of DNR concerning finances and Millennium’s suitability as a subtenant (*Northwest v DNR 2017*). Millennium CEO Chapman claimed the sublease denial “created an unnecessary step, adding to the red tape and delay in what should have been a straight-forward administrative change” (quoted in Luck 2017a).

Before a decision was reached on the sublease appeal, the long-anticipated SEPA FEIS was finally released on 28 April 2017. At this time, the Millennium terminal was the last proposed coal export terminal standing in the PNW. Though the FEIS still failed

to fully satisfy environmentalists, they contend the findings confirm concerns over the terminal's impacts on health and environmental well-being (Columbia Riverkeeper 2017). A major finding of the FEIS was that “diesel particulate matter emissions from...train locomotives...would result in areas of increased cancer risk...which would represent an unavoidable and significant adverse impact” (CC&E 2017, S-43). BNSF, the rail company predominantly responsible for the transport of coal to the terminal, appealed the FEIS, saying this conclusion was scientifically unfounded (*The Seattle Times* 2017b). However, in an effort to expedite the permitting process, they later withdrew their appeal in the absence of additional appeals from other parties (Kaitala 2017). Proponents of the terminal believe Ecology used its position on the project and its position of power to intentionally drag out the permitting process by adjusting the scope of its analysis and obfuscating the purpose of the EIS. Proponents also believe Ecology acted outside of its purview and misapplied SEPA by requiring mitigation measures for the entire life cycle of the coal it exports, including consumption outside of the country (Keep Washington Competitive 2017).

In response to the determination of unavoidable impacts to the environment, Millennium submitted a Critical Areas Assessment in May 2017 to the Cowlitz County Department of Building and Planning in order to fulfill requirements for a Critical Areas Permit (CAP) per Cowlitz County Code (Grette Associates 2017a). The approval of this permit the following July meant the County was satisfied with Millennium's Conceptual Mitigation Plan (Grette Associates 2017b), representing the beginning of a “new and exciting phase” (quoted in Luck 2017b) for Millennium, as it was officially the first permit granted for the terminal. Despite this win for Millennium, opponents of the

terminal remained steady in their prediction that the terminal would not receive all of the necessary permits to begin construction and operation due to its severe and inevitable environmental and public health impacts. Even still, opponents did not file any appeals to the CAP or the EIS by the appeals deadline, a clear signal to Millennium CEO Bill Chapman that the “project meets Washington’s strict environmental standards” (quoted in Luck 2017c).

Figure 8 shows the first set of permitting decisions issued in 2017. While it appeared that the year got off to a less than satisfactory start with the denial of the aquatic lands sublease, the process started looking more positive for Millennium by mid-year, when the SEPA FEIS went unchallenged and they received their first permit. However, as the next section shows, the last few months of the year were much more tumultuous, with additional denials and appeals.

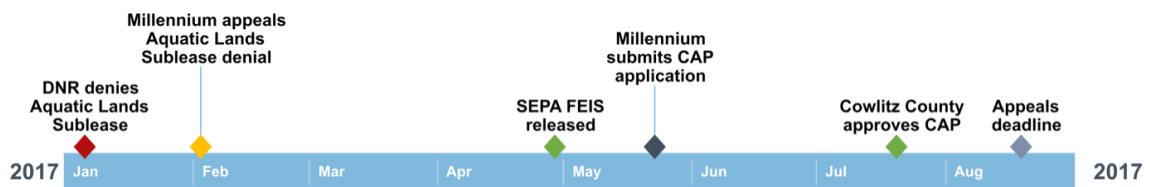


Figure 8. Millennium permitting timeline 2017 Part 1

Another One Bites the Dust...?

In what would effectively kill the Millennium project, Ecology denied Millennium their Section 401 Water Quality Certification with prejudice based on the findings of the FEIS on 26 September 2017. Ecology also stated that “these findings likely preclude Ecology from approving [future permit] applications” (Bellon 2017a, 2). Ecology cited the nine areas of unavoidable and adverse impacts previously listed in this

chapter, which includes impacts unrelated to water quality such as increased cancer risks due to elevated air particulate matter concentrations and increased traffic due to the greater number of trains traveling through the area. However, Ecology's decision was also based on real and unavoidable impacts and risks to the environment, such as an increased risk of accidents and spills in the Columbia River due to increased vessel traffic. A paramount reason for Ecology's denial of the Section 401 Certification is based on Ecology's belief that Millennium's mitigation plan for wetland impacts is "inadequate" (Bellon 2017b, 13) and they are lacking important information about their mitigation plans and contaminated and wastewater disposal plans to the extent that Ecology "does not have reasonable assurance that the Project will meet water quality standards" (Bellon 2017b, 14). Chapman condemned this decision, making the bold accusation that "Ecology...intentionally disregarded decades of law defining the CWA to reject the water quality certification requested for Millennium's project" (quoted in *Tri-City Herald* 2017).

Moreover, DNR also denied NWA's request for improvements to docks in October 2017 on the basis that these improvements were intended for the purpose of Millennium's proposed terminal and greatly exceeded anticipated improvements agreed upon in the signing of their original lease agreement with DNR. In addition, Millennium could not act upon these improvements without a sublease approved by DNR, which was denied earlier that year. Ecology's denial of a Section 401 Water Quality Certification also meant that Millennium lacked the prerequisite certification to address the desired improvements (Franz 2017).

Millennium became tangled in a legal web in the following days after this denial for improvements from DNR. A Cowlitz County judge ruled in Millennium's favor in the aquatic lands sublease denial, overturning DNR's "arbitrary and capricious" denial for further negotiation between the parties (Luck 2017d). Millennium also filed an appeal to the Cowlitz County Pollution Control Hearings Board (PCHB) and sued Ecology in Cowlitz County Superior Court for the Section 401 Water Quality Certification denial, a key permit that has proved crucial for the acquisition of additional permits, on the grounds that Ecology "disregarded their legal responsibilities as a state agency...while assessing Millennium's 401 certification application" and "reinvented the rules and created an unprecedented process" in evaluating the project (MBTL 2017a, 1). The public hearing for the shoreline permit applications also took place during this time in November 2017. Though the Cowlitz County Building and Planning Department recommended to the hearing examiner that the shoreline permits be conditionally approved (Melin and Placido 2017), the permits were denied on the grounds that ten significant adverse impacts found in the FEIS, including the same nine impacts cited in Ecology's denial of the Section 401 Certification as well as GHGe, could not be adequately mitigated. The hearing examiner also suggests that this project "does not recognize and protect the statewide interest over local interest," "does not result in long term over short term benefits," and "does not protect the resources and ecology of the shoreline" (Cowlitz County Hearing Examiner 2017, 56). Many proponents of the terminal expressed their frustration with the apparently broad scope of impacts used to consider the approval of permits concerned with discrete environmental areas, such as air

quality for water quality permits and train traffic for shoreline development permits (Luck 2017e).

In an expected move, Millennium filed an appeal of the shoreline permits denial on 4 December 2017, claiming the hearing examiner disregarded extensive expert testimony put forth during the public hearings and considered impacts inconsistent with the scope of the Cowlitz County Shoreline Management Act (K&L Gates LLP 2017). The following day, Millennium once again sued Ecology, this time for violating the Public Records Act by failing to submit technical documents used to make the conclusions found in the FEIS, arguing that the state “altered the Environmental Impact Statement in ways that ignore the analysis of the experts it hired” (MBTL 2017b). This accusation implies that Ecology intentionally manipulated either the studies it conducted or the findings in the FEIS in order to satisfy its bias against the project.

Figure 9 shows the particularly turbulent time in the last few months of 2017, characterized by repeated denials, appeals, and lawsuits. This behaviour exhibited by Millennium of not surrendering to the decisions of the state would become characteristic for the company. As the next section shows, the coming years would provide no respite for Millennium, who hoped to place its fate in the hands of the federal courts.

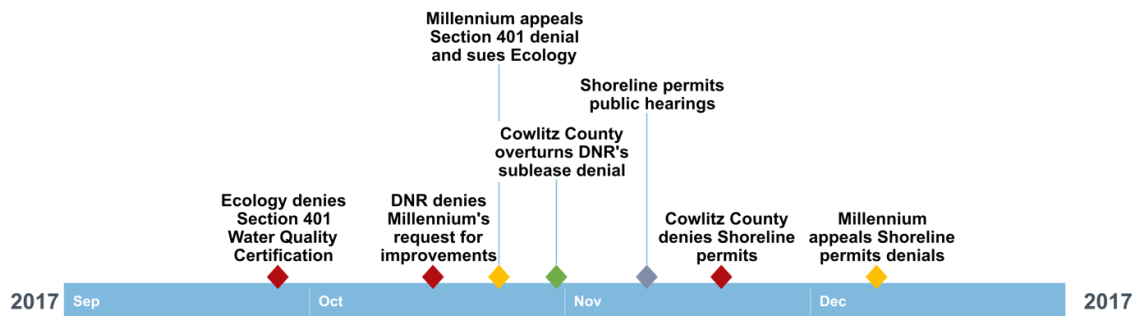


Figure 9. Millennium permitting timeline 2017 Part 2

The Nation Joins the Fight

On 3 January 2018, in a major move to attempt to get the proposed terminal finally built, Millennium's parent company, Lighthouse Resources, Inc (formally Ambre Energy North America) filed a federal lawsuit against Washington Governor Inslee, as well as Ecology's director and DNR's Commissioner of Public Lands, for infringing on interstate and foreign commerce protected by the Constitution by "unreasonably delay[ing] and den[y]ing a number of permits and approvals" (*Lighthouse Resources v Jay Inslee 2018*) for the Millennium terminal. Blocking the export of coal from Montana and Wyoming and surrounding states by discriminating against the terminal explicitly violates the Commerce Clause, according to Lighthouse. Lighthouse also contends that it is the federal government's role, not the State's, to govern railroad and vessel operations under the Interstate Commerce Commission Termination Act (ICCTA) and the Ports and Waterways Safety Act (PWSA) (Lighthouse Resources Inc, 2018).

In a strongly worded motion for dismissal, joined by several environmental groups, the defendants call Millennium's claim that Washington decision makers are blocking the terminal in order to further their agenda rather than protect the state's residents and environment a "false narrative" (Ferguson 2018, 1). They also state that Millennium's operations do not fall under the purview of the ICCTA or the PWSA and should therefore be dismissed along with the claims against the Commissioner of Public Lands Hilary Franz under the Eleventh Amendment, which protects state-officials from federal lawsuits over their "management decisions regarding state-owned ... lands" (Ferguson 2018, 1). They contend that the court should abstain on Commerce Clause claims due to the state lawsuits already underway.

This lawsuit quickly become one of national interest. In March 2018, BNSF intervened as a plaintiff against Governor Inslee in the case (Bryan 2018a) and in May 2018, six states—Wyoming, Kansas, Montana, Nebraska, South Dakota, and Utah—filed an amicus brief in support of Lighthouse. These interior states agreed that Washington state agencies are “preventing Wyoming and Montana from engaging in foreign and interstate commerce” (Bullivant Houser Bailey PC 2018, 6) by delaying and denying permits for the Millennium terminal. This amicus brief was even encouraged by Cowlitz County Commissioner Dennis Weber, whose lobbying was strongly condemned by county residents for overstepping ethical political boundaries (Hale 2018) and was “wholly inappropriate for a county commissioner to do that in and of itself” (Dana L., 10 August 2019, in-person interview). The defendant’s abstention motion for the Commerce Clause was refuted in the amicus brief, who argued that the federal government has an “overwhelming interest” in these claims (Bullivant Houser Bailey PC 2018, 8). In August 2018, another six states—California, Maryland, New Jersey, New York, Oregon, and Massachusetts—filed an amicus brief, this time, in support of Governor Inslee and his administration. These states assert that the plaintiffs’ claims that Washington’s decisions to deny permits preempts the federal government’s authorities is “inconsistent with federalism’s respect for states’ historic police powers exercised entirely within their sovereign domain” (Breskin Johnson Townsend, PLLC 2018, 3-4).

In the last few months of the same year, the court ordered several wins for the defendants. The court dismissed DNR Commissioner Franz from the claims put forth against her on the grounds that not doing so would “functionally prevent Washington State’s officers from exercising their authority over Washington’s sovereign lands”

(Bryan 2018b, 11). The court also dismissed claims that Washington's actions were preempted by the ICCTA and PWSA because the denial of the Section 401 Water Quality Certification—the issue presented in this case—is not governed by those acts (Bryan 2018c). The plaintiffs appealed both rulings (Venable LLP 2019).

The wins for the defendants extended well into the following year. In April 2019, the court dismissed intervenor BNSF's claims that the Section 401 Water Quality Certification denial infringes upon their constitutional right to engage in trade under the Foreign Affairs Doctrine on the grounds that there is no conflict between the state's actions and federal government policy and does not infringe upon the federal government's authority (Bryan 2019a). In that same month, the court stayed the case pending conclusion of the suits in state courts, only to be met by an appeal by the plaintiffs (Venable LLP 2019). The case is still ongoing at this time.

Several major events took place while this federal suit was underway. In August 2018, the PCHB affirmed Ecology's decision to "use substantive SEPA authority" to deny Millennium the Section 401 Water Quality Certification "even though all criteria for the permit have otherwise been met" (PCHB 2018, 10). In October 2018, despite the numerous legal setbacks for Millennium and in direct opposition to state decisions, the USACE announced it would continue with its environmental review process for the NEPA FEIS, good news for the "developers who want the Trump administration to help keep [the project] alive;" however, federal permits cannot be granted without the approval of state certifications (Bernton 2018). In November, Millennium CEO Bill Chapman announced his retirement just before the company laid off 15 percent of its workforce in the midst of its legal battles, the blame for this placed on the various state

permitting agencies (Lundy 2018). In January 2019, Ecology mandated that Millennium clean up the former Reynold's site it occupies before any development for the terminal can occur and must be completed whether or not terminal construction is approved (*The Daily News* 2019). However, approval of the terminal began to look even less likely on 23 August 2019 when DNR's aquatic lands sublease denial was upheld by a state appeals court, who concluded the failure on Millennium's part to provide financial information requested by the state is a sound reason to deny the sublease. This reversed the 2017 decision by the Cowlitz County Superior Court that overturned the denial (Gruben 2019).

In April of 2019, the same month that the federal judge dismissed claims against Washington for violating the Foreign Affairs doctrine and stayed the case, President Trump signed Executive Order 13868 on Promoting Energy Infrastructure and Economic Growth "to enable the timely construction of the infrastructure needed to move our energy resources through domestic and international commerce" by "promot[ing] efficient permitting processes and reduc[ing] regulatory uncertainties that currently make energy infrastructure project expensive and that discourage new investment" (Trump 2019). Trump also called for a review of Section 401 of the CWA, essentially undermining states' authority over their waters. Governor Inslee (2019) called this EO "an unprecedented assault on the right and obligation of every state to protect their waters and their communities." In an effort to "provide greater regulatory certainty" (EPA 2019b, 2), the EPA released updated guidelines for states under the CWA in early June 2019. The guidelines stipulate no more than one year to make decisions on Section 401 certification applications and exceeding this amount of time should result in an issuance of the permit. They also recommend that impacts related only to water quality be

considered in the decision-making process and any other impacts are considered extraneous and irrelevant to the issuance of the Section 401 permit and that decisions should not be delayed pending NEPA findings. However, these guidelines have no legal bearing and therefore states are not legally bound to them until a final rule is signed into law.

Figure 10 shows the multitude of important events that took place between January 2018 and June 2019 once the terminal took the national stage. If Lighthouse and Millennium are successful in court and Ecology's Section 401 permit denial is overturned and/or granted, the USACE would be able to work toward making decisions on the Section 404 and Section 10 permits pending completion of the NEPA FEIS.

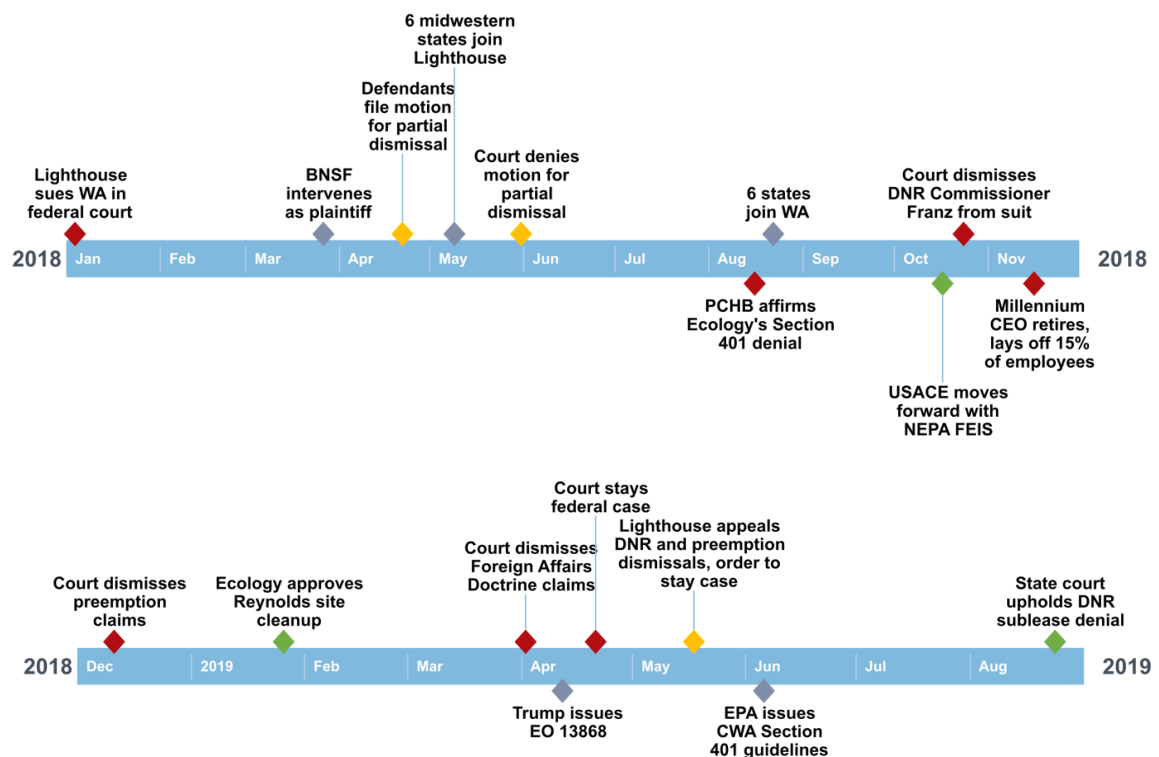


Figure 10. Millennium permitting timeline 2018-2019

Conclusion

This chapter presents a historical account of the Millennium Bulk coal export terminal permitting process by providing a detailed series of chronological events and their context. This chapter relied on extensive archival work and supplementary interview data to build this timeline, which enables the identification of moments of conflict in the Millennium permitting process that have arisen from the inclusion of informal actors and the contradictory goals of the different levels of government involved. The high level of public participation in the permitting process and continuous legal action by stakeholders on all sides of the issue have resulted in a deeply intricate and extensive permitting process that has lasted nearly a decade. Many of the legal issues presented in this chapter are the result of differences in regulatory interpretation and disagreement over the appropriateness of government action. The disparity between federal and state government actions demonstrate the difficulty in balancing economic development and environmental protection, which is a major source of the friction within the Longview community. This disparity is further complicated by federalism, in which the state of Washington is granted great regulatory authority over environmental management decisions, which can preclude the federal government itself from making such decisions. Subsequent chapters provide a more thorough objective discussion of the regulatory frameworks presented in this chapter that have been used to make permitting decisions for the Millennium project and place the events and the regulatory frameworks discussed here within the context of political ecological and political economic theory.

CHAPTER IV

PERMITTING REGULATIONS

Introduction

This chapter provides an overview of the federal, state, and county regulations, which are predominantly environmental in nature, relevant to the Millennium Bulk coal export terminal permitting process. This overview is fundamental to understanding the Millennium permitting process because it illustrates the differences in the regulatory authority of each scale of government. Each of these regulations reflects a critical juncture for the permitting process; the denial of just a single permit means the project cannot move forward. While the number of permits and regulations alone can seem daunting to surmount, public involvement in the decision-making process can pose an even greater risk for projects like Millennium's by further extending the amount of time it takes to acquire such permits. This case study is particularly complex because it is deeply entangled in a web of federalism; the Constitution limits state power in the Commerce Clause and the Supremacy Clause, but federal regulations such as the CWA may also grant states certain rights to protect their residents and their environment. It is this federally granted authority to the state of Washington that has stalled progression of the proposed terminal; even with a case pending in federal court, final decisions cannot be reached until the state court cases have been resolved.

This chapter is divided into three sections: the relevant federal, state, and county permitting regulations, respectively. The regulations described in each section are discussed within the context of the Millennium permitting process and any issues that have arisen because of differences in interpretation and/or disagreements over their

implementation. The three levels of permitting regulations are visually summarized in Figure 11.

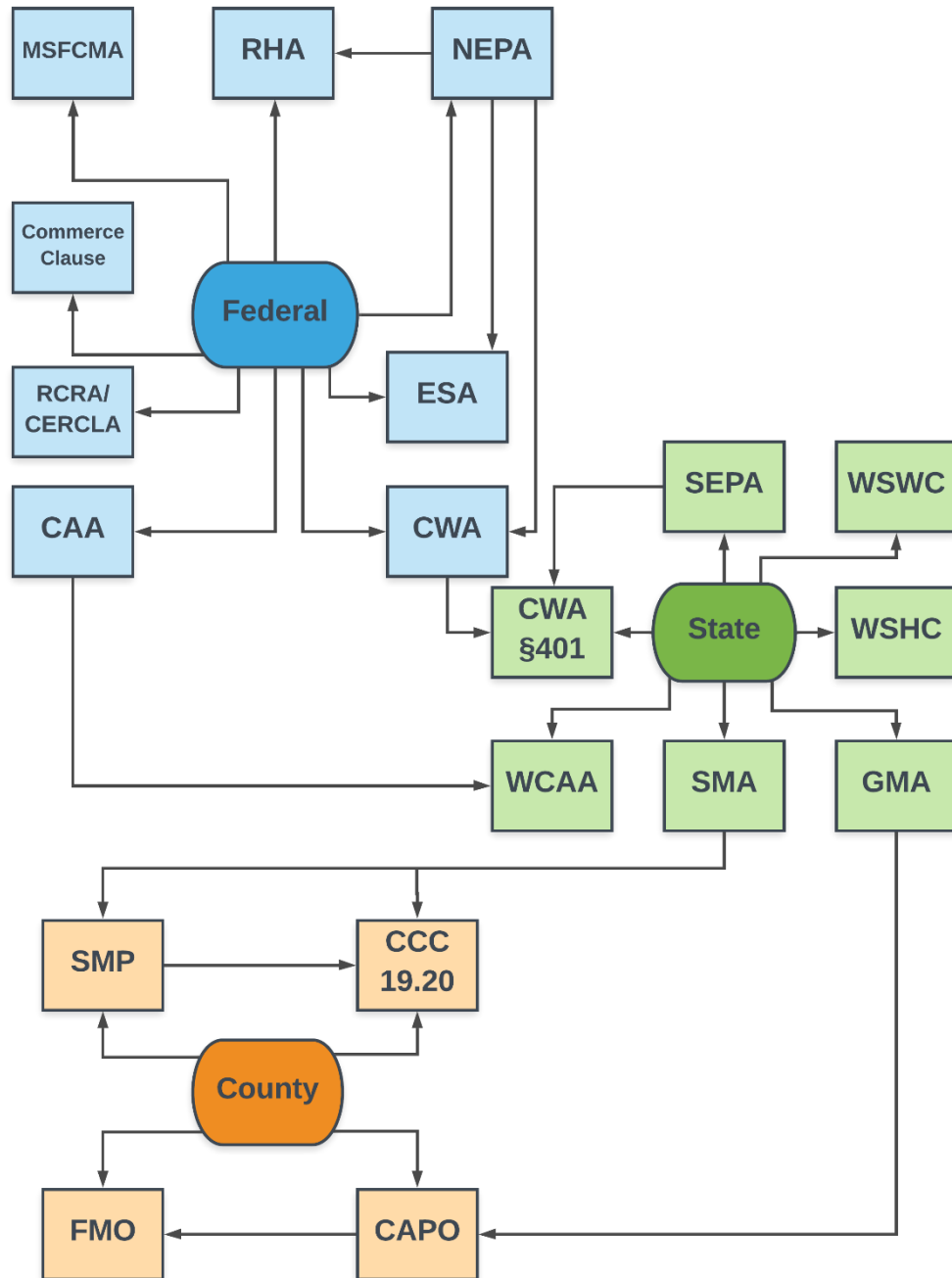


Figure 11. Applicable federal, state, and county regulations for the Millennium terminal

Applicable Federal Permitting Regulations

Commerce Clause

Article I, Section 8, Clause 3 of the U.S. Constitution, also known as the Commerce Clause, gives Congress the authority “to regulate commerce with foreign nations, and among the several states, and with the Indian tribes”. When Ecology denied Millennium their Section 401 water quality certification, Millennium’s parent company, Lighthouse Resources, filed a federal suit against Washington state, claiming this permit denial infringes upon interior coal states’ ability to trade with foreign nations. Six of these interior coal states joined Lighthouse in their lawsuit. Lighthouse maintains the position that Washington state permitting agencies “unreasonably delay and deny a number of permits and approvals” (*Lighthouse Resources v Jay Inslee 2018*) and these discriminatory actions directly violate the Commerce Clause. The defendants in the case argue that these permit denials are not discriminatory in nature but are intended to protect the state’s residents and environment (Ferguson 2018). Washington was later joined by an additional six states, who oppose Lighthouse’s claim that Washington’s decision to deny permits preempts the federal government’s authority on the grounds that it is “inconsistent with federalism’s respect for states’ historic police powers exercised entirely within their domain” (Breskin Johnson Townsend PLLC 2018, 3-4).

The court dismissed claims that the Section 401 permit denial infringes upon the plaintiff’s constitutional right to engage in trade under the Foreign Affairs Doctrine on the grounds that there is no conflict between the state’s actions and federal government policy and it does not infringe upon the federal government’s authority (Bryan 2019a).

The case was eventually stayed pending conclusion of the suits in state courts and is still ongoing at this time.

National Environmental Policy Act of 1969

National Environmental Policy Act of 1969 (NEPA) sets the foundation for environmental protection policy in the United States. The purpose of NEPA is to establish a national policy that promotes environmental protection in decision-making efforts concerning federal projects. NEPA also encourages collaboration between the public and federal agencies in decision-making efforts in order to enhance the human environment and foster “productive ... harmony” between society and nature. If a federal project is deemed to pose significant risk to the environment, Section 102 of NEPA requires an EIS that presents an analysis of the environmental effects of the project’s implementation, including unavoidable negative impacts, short-term and long-term costs and benefits, as well as potential alternatives to the project. This analysis is expected to be scientifically founded, comprehensive, and informative without bias. Before work can begin on an EIS, the lead federal agency involved in the project must announce the start of the scoping period, which invites the public to help determine the scope or range of environmental impacts to be assessed in the EIS. A draft EIS (DEIS) is then made available for public comment and these comments are addressed in a final EIS (FEIS). The NEPA FEIS, along with the amalgamation of comments from the public, serve as the basis on which decision-makers approve or deny federal permits.

For Millennium’s project, the USACE is the lead federal agency in cooperation with the EPA (Estok 2014). The USACE would have utilized the NEPA FEIS to make

permitting decisions in regard to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act (discussed in further detail below). However, as detailed in Chapter III, work on the NEPA FEIS halted after Ecology denied Millennium a prerequisite Section 401 water quality certification, and as such, the USACE was unable to make the aforementioned permitting decisions.

A major point of debate concerning NEPA and its purview, particularly in Millennium's project, revolves around including GHGe and climate change impacts in a project's EIS. As detailed in Chapter III, the EPA strongly disagreed with the USACE's decision to limit the scope of their analysis to include only direct GHG impacts of the terminal to the extent that they gave the NEPA DEIS an "inadequate" rating (McLerran 2016, 1). Public opponents of the terminal believe it is crucial to consider the impact the terminal will have on increasing GHGe from extraction, transportation, and consumption as these processes will not only elicit adverse effects *in situ* but exacerbate global climate change (Columbia Riverkeeper 2016). Proponents, however, do not believe that a life cycle analysis of coal's emissions should be considered in a localized infrastructure project. In 2016, the Council on Environmental Quality (CEQ), which oversees the NEPA process, published guidance for analyzing GHGe in an EIS that recommended agencies include a project's projected direct and indirect GHGe and use those as a proxy for assessing a project's impact on climate change (CEQ 2016). Those guidelines even suggest that activities "that may occur...as a consequence of a proposed agency action should be accounted for in the NEPA analysis" (CEQ 2016, 13). However, in 2017, President Trump ordered the CEQ to rescind these guidelines as part of Executive Order

13783, “Promoting Energy Independence and Economic Growth” (Trump 2017b).
Updated guidelines have not yet been finalized.

Clean Water Act

The CWA sets the basis for surface water quality standards and regulating pollutant discharge into WOTUS. Section 401 of the CWA requires a state permit for such discharge to ensure a project complies with state water quality standards. Section 404 of this Act requires a federal permit to displace dredged material into WOTUS, including wetlands.

The USACE is responsible for issuing Millennium their Section 404 permit, since construction of the terminal would result in permanent loss of wetland function and therefore requires mitigation under the CWA (USACE 2016d). However, before the NEPA FEIS, which would have served as the scientific basis for which a permit decision would be made, could be completed, Ecology denied Millennium their Section 401 water quality certification. Denial of this prerequisite permit meant that the project could not move forward even if the USACE determined Millennium’s Section 404 permit application was acceptable since federal water quality permits cannot be issued if the state permit was denied (Ecology 2019).

Rivers and Harbors Act

The Rivers and Harbors Act (RHA) grants the USACE the authority to protect navigable waters through regulating activities in those waters. Section 10 in particular requires projects to obtain permit approval to build structures over or in navigable waters

as well as to excavate or fill them. The construction and operation of the Millennium coal export terminal would affect the Columbia River, considered a water of the United States, via dredging, pier construction, and pile driving and therefore requires a Section 10 permit. However, as with the Section 404 permit also under the purview of the USACE, Ecology's Section 401 water quality certification denial preempts the USACE's ability to issue this Section 10 permit.

Endangered Species Act

The Endangered Species Act (ESA) is designed to identify, protect, and conserve threatened and endangered species and the ecosystems of which they are a part in order to foster population growth and prevent further species extinction caused by human activities. Section 7 of the ESA requires consultation with the U.S. Fish and Wildlife Service (USFWS) if the project is expected to impact terrestrial and freshwater species and/or the National Marine Fisheries Service (NMFS) if the project is expected to impact marine species to ensure that a federal action or project does not threaten any species or habitat determined to be endangered to threatened.

There are several threatened and endangered terrestrial and aquatic species within the Millennium Bulk project study area, which includes habitats along rail lines and the middle and lower Columbia River. Of particular concern to many of the project's opponents is the presence of threatened anadromous salmonid species including Chinook salmon, Coho salmon, chum salmon, and steelhead trout, as well as eulachon, as identified in the NEPA DEIS (USACE 2016a). These species have the potential to be impacted by activities associated with the construction and operation of the Millennium

terminal, including increased underwater noise from pile-driving and water quality impacts from dredging, pile dike removal, and runoff polluted with coal lost in rail transport. Opponents are worried not only about the direct impact these activities would have on these species, but also the indirect impact on climate change the terminal is expected to have and what that means for the salmon populations already struggling with rising water temperatures (Zimmer-Stucky 2016).

An additional concern related to adverse impacts on threatened anadromous fish species is the expected impact to tribal fishing (USACE 2016e). The aforementioned species are considered culturally significant to tribal nations along the Columbia River. Behavioral changes and/or physical harm to these species are expected to occur as a result of project-associated activities, which could potentially lead to lower population numbers. With shorter fishing seasons, intended to conserve stocks, and decreased access to usual and accustomed fishing sites due to increased rail traffic from the project, tribal communities anticipate adverse cultural and economic impacts due to the project's impacts to threatened fish species.

Clean Air Act

The Clean Air Act (CAA) regulates stationary and mobile sources of air emissions in order to prevent further pollution and degradation of the nation's air quality so as to protect human health and welfare, as well as the natural environment. The EPA developed federal standards for air quality, known as National Ambient Air Quality Standards (NAAQS), designed to protect human health and welfare from the harmful effects of low air quality. The EPA is also responsible for regulating locomotive and

vessel sources of pollution, such as coal transported by rail, and ensuring that projects and associated activities meet federal air quality standards. Additionally, the EPA regulates public exposure to particulate matter in the air, including coal dust and GHGs. The Millennium project is expected to emit both of these pollutants during its construction and operation.

No federal permit is required for the CAA; instead, Section 107 of the CAA places responsibility on each individual state for devising and implanting plans to maintain healthy air quality within their state boundaries. Washington state has its own CAA, discussed in further detail later in this chapter, that requires projects planning to emit airborne pollutants, such as Millennium, to obtain a permit from a local authority prior to project construction.

One of the major points of contention in the debate over the Millennium project is the SEPA FEIS finding that “diesel particulate matter emissions from ... train locomotives ... would result in areas of increased cancer risk ... which would represent an unavoidable and significant adverse impact” (CC&E 2017, S-43). Even more controversial is that the increased cancer risks would be evident in low-income and minority communities, representing an important environmental justice issue, in which low-income and minority communities bear the disproportionate burden of negative environmental externalities. Millennium has not proposed any measures to mitigate this public health risk.

Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act

The purpose of the Resource Conservation and Recovery Act (RCRA) is to regulate the production, transport, use, and disposal of solid and hazardous wastes from facilities currently in operation, while the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulates the remediation of contaminated sites no longer in use, known as Superfund sites. Each Act has its own list of hazardous wastes and substances. The EPA is responsible for implementing both Acts.

Millennium acknowledges that operation of the terminal would involve the use of several hazardous materials, including fuels and fluids necessary for equipment operation, water treatment, and produced wastes, all of which pose a threat of release into the environment, including the Columbia River. Millennium is also currently undertaking cleanup of the contaminated former Reynolds site on the premises, meaning that construction and operation of this project would fall under the regulation of RCRA and CERCLA. No permit is required under these regulations, but actions must be taken to ensure full compliance (USACE 2016b).

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) is intended to promote marine fishery sustainability by supporting fishery resource conservation and management, particularly of migratory species, through the identification of fish habitats and potential threats to such habitats. The Act requires consultation with the NMFS on projects that pose any potential threats to fishery stock or their habitats. The Columbia River is designated essential fish habitat for Chinook and

coho salmon per the MSFCMA and these species are also listed as threatened per the ESA. Construction and operation of the Millennium terminal has the potential to adversely affect both the fish themselves as well as their habitat. There is no indication that consultation with NMFS was initiated or that approval from NMFS has been granted to Millennium under this Act.

Applicable State Permitting Regulations

State Environmental Policy Act

SEPA is modeled after NEPA and requires an environmental review when a project will need state or local permits in order to ensure that the environmental consequences of a project are adequately considered. Sixteen states currently have their own set of procedures under state-specific SEPAs. The purposes of Washington's SEPA are identical to the purposes of NEPA and like NEPA, SEPA requires an environmental review that culminates with an EIS to aid in making permitting decisions. SEPA also depends heavily on public comments received during the scoping phase and after the DEIS is published.

Ecology and Cowlitz County are the co-lead agencies completing the SEPA review for the Millennium project (CC&E 2017, FS-2). Ecology used the SEPA FEIS to make permitting decisions under the CWA, the Washington State Water Code, and the Washington Shoreline Management Act, each discussed in further detail later in this section (CC&E 2017, 8-1). Cowlitz County also used the SEPA FEIS to make local permitting decisions, discussed in the next section.

One of the major sources of controversy within the SEPA FEIS is the co-lead agencies' conclusion that Millennium must mitigate for the effects of coal consumption outside the state of Washington. Proponents of the project believe that this broad mitigation requirement is an "unprecedented application of the SEPA process, which was designed to mitigate for impacts near a project's site and within the state of Washington" (quoted in Keep Washington Competitive 2017). However, supporters of this level of scope have argued that coal combustion outside of Washington has the potential to significantly exacerbate the effects of global climate change, which can then adversely impact precipitation, snowpack, temperature, and sea levels in Washington. Therefore, they argue that it is appropriate to consider these impacts and require their mitigation.

Clean Water Act Section 401

The most critical environmental regulation for the Millennium terminal is the federal CWA. As discussed above, the CWA federally standardizes surface water quality of WOTUS and regulates pollutant discharge into these waters. Section 401 of the CWA requires that projects receive a water quality certification from the state before the project can receive a federal permit to discharge pollutants into WOTUS, such as a Section 404 permit or an RHA Section 10 permit. Millennium requires both of those federal permits, and therefore a Section 401 water quality certification from the state of Washington is a prerequisite for receiving those federal permits. Without receipt of this permit, Millennium's project cannot move forward. The CWA is a clear example of federalism in the United States, which delegates important environmental protection decisions to the

individual states, which can preclude the federal government itself from making permitting decisions.

In order to make a determination on Millennium's Section 401 permit, Ecology used the information found in the SEPA FEIS. Ultimately, Ecology denied Millennium the permit with prejudice, stating that this denial and the findings on which they based their decision is likely to prevent Ecology from issuing any future permits. Ecology based their denial on nine areas of unavoidable adverse impacts, including cultural and tribal resources, rail transportation and safety, vehicle and vessel transportation, noise and vibration, and GHGe. The enumeration of impacts affecting Ecology's decision is significant: they include impacts unrelated to water quality such as increased cancer risks due to elevated air particulate matter concentrations and increased road traffic due to the greater numbers of trains traveling through the area. However, it is clear that Ecology's decision was also based on real and unavoidable impacts and risks to the environment, such as an increased risk of accidents and spills in the Columbia River due to increased vessel traffic as well as "inadequate" (Bellon 2017a, 13) wetland mitigation plans and contaminated wastewater disposal plans (Bellon 2017b).

Millennium filed suit against Ecology in Cowlitz County Superior Court for this denial, on the grounds that Ecology "disregarded their legal responsibilities as a state agency ... while assessing Millennium's 401 certification application" and "reinvented the rules and created an unprecedented process" in evaluating the project (MBTL 2017a). The denial also prompted Millennium to sue Ecology for violating the Public Records Act after they failed to submit technical documents used to make the conclusions found in the FEIS, asserting that the state "altered the Environmental Impact Statement in ways

that ignore the analysis of the experts it hired” (MBTL 2017b). This accusation implies that Ecology intentionally manipulated either the studies it conducted or the findings in the FEIS in order to satisfy its bias against the project.

Ecology’s denial of the Section 401 water quality certification ultimately led to Millennium’s federal lawsuit against the state of Washington on Commerce Clause violations, discussed earlier in this chapter.

Washington State Water Code

Washington State Water Code (WSWC) sets the rules for regulating water rights and beneficial uses of such rights. Millennium is currently leasing the project area land from NWA, who holds water rights that Millennium is entitled to under the lease. The anticipated water volume demand of the Millennium project is expected to be well within the established water rights, however, it is up to Millennium to ensure that these rights are current and in good standing. If the water rights have been relinquished due to extensive lack of use, it is up to Millennium to acquire the necessary water rights for use on the project site. WSWC also requires the acquisition of a Water Rights Permit from Ecology if a project intends to collect stormwater for industrial beneficial use.

In Ecology’s pivotal decision to deny Millennium their Section 401 Water Quality Certification, they cite the project’s intentions to collect and use stormwater for dust control, an example of an industrial beneficial use that would require a Water Rights Permit. Ecology never received this permit application. Millennium also failed to provide documentation to Ecology regarding the use of Northwest Alloys’ allocated water rights for nearly a decade, indicating a possible relinquishment of said rights. The validity of

Northwest Alloys' rights could not be confirmed due to the lack of documentation and therefore Ecology did not have reasonable assurance that project activities involving water usage would be carried out legally (Bellon 2017c).

Washington State Shoreline Management Act

The Washington State Shoreline Management Act (SMA) is designed to manage the appropriate balance of the environmental protection of and public access to state shorelines. Counties along shorelines in Washington are required to create Shoreline Master Programs that must be approved by Ecology. Ecology is also responsible for enforcing the SMA statewide. The Millennium project may require new dredging operations on the Columbia River shore and is therefore required to obtain a Shoreline Conditional Use Permit from Cowlitz County, detailed later in this chapter, with final approval from Ecology.

Washington State Hydraulic Code

Washington State Hydraulic Code (WSHC) requires hydraulic projects in state waters, defined as “construction or performance of work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or freshwaters of the state,” to acquire a Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife (WDFW) to ensure construction does not threaten fish or their habitats. Since the Millennium terminal project area is located on and adjacent to the Columbia River, the project requires an HPA. However, there is no documentation that an application for this permit was ever submitted to the WDFW.

Washington Clean Air Act

The Washington CAA (WCAA) is the statewide regulation for air quality. The Act requires projects that are known to cause air pollution or may potentially emit airborne pollutants to receive a permit from the local air quality agency before construction can begin. Permitting authority has been delegated to local agencies to carry out the requirements of the WCAA. Permits are required for stationary sources that emit an excess of 0.75 tons of PM10 per year or 0.5 tons of PM2.5 per year; Millennium expects to exceed those limits and therefore the WCAA requires the company to obtain a Notice of Construction air permit from the Southwest Clean Air Agency prior to construction. Millennium submitted an application for this permit, but there is no documentation that suggests the application was ever reviewed or that a decision was made.

Growth Management Act

The Washington State Growth Management Act (GMA) is designed to protect critical areas and natural resource lands by controlling urban growth through management techniques such as urban growth area designations and comprehensive plan preparation and implementation. Guidelines and standards for planning are set at the state level but are carried out by individual local governments. For example, the GMA guidelines encourage development in urban areas while reducing sprawl while also supporting environmental protection and natural resource development and conservation. Public participation is also highly encouraged in the planning process. The GMA does not issue permits, rather, it requires the preparation of a county-wide plan that establishes

critical areas for the protection of natural species and zoning regulations to manage urban growth.

The Millennium project area is designated Industrial under Cowlitz County's Comprehensive Plan (Cowlitz County 2017d), which supports industrial growth within the county. The GMA also designates wetlands as critical habitat, of which a large portion within the study area would be inevitably lost during construction of the terminal (Cowlitz County 2016b). While the GMA does not require the acquisition of permits, failure to abide by the Act can result in a suit heard by the Growth Management Hearings Board.

State Nuisance Laws

Nuisance laws are “designed to protect against invasions of interests in the use and enjoyment of land” (Percival et al. 2009, 63) and have historically been difficult to mediate due to incongruent values of the involved parties that dictate how the environment is treated and understood. There is also a lack of certainty on what is considered a high enough level of such an invasion of interests that warrants compensation or an injunction against the offending party. There are two types of nuisance: public and private. Public nuisances affect the rights of the community as a whole, even if members of the community suffer from the nuisance at varying degrees (RCW 1881§1236), and “involves a significant interference with the public health, safety, comfort or convenience” (Percival et al. 2009, 76). Private nuisances affect the private use or enjoyment of land (Percival et al. 2009, 64).

The complicated nature of nuisance actions and claims means there are often very few set standards for nuisance-level activities. In Millennium’s case, the most significant concern of regulators and community members is coal dust deposition, for which no federal or state standards or limitations exist (CC&E 2017, S-36). There are no permits required for nuisance activities or particles; however, the Southwest Clean Air Agency is responsible for assessing coal dust levels and should they exceed “nuisance levels,” Millennium is responsible for taking action to reduce coal dust emissions (CC&E 2017, S-58).

Applicable County Ordinances

Cowlitz County Shoreline Master Program and Cowlitz County Code (CCC) 19.20 Shoreline Management

As introduced previously in this chapter, the SMA requires counties along state shorelines to develop individual Shoreline Master Programs (SMP) and to make permitting decisions regarding projects taking place in shoreline areas. The SMA delegates decision-making powers to the counties as exercised by their SMPs. A Shoreline Substantial Development Permit (SSDP) is required when new development is proposed to take place within the shoreline areas regulated by the SMA and SMP. A Shoreline Conditional Use Permit (SCUP) is required when a conditional use, such as dredging, is set to occur on urban shorelines and requires Ecology’s final approval. Permit applications are heard by the Cowlitz County Shoreline Hearings Board hearing examiner.

Millennium made two attempts to acquire their SSDP and SCUP. The first, clouded by their underrepresentation of the scale of their project (see Chapter III) was rescinded by the company. Their second attempt was also unsuccessful. Despite the recommendation by the Cowlitz County Building and Planning Department to conditionally approve the permits (Melin and Placido 2017), the hearing examiner denied the permits on the grounds that ten significant adverse impacts found in the SEPA FEIS, including those cited in Ecology’s denial of the Section 401 certification, “does not protect the resources and ecology of the shoreline” and could not be adequately mitigated (Cowlitz County Hearing Examiner 2017, 56). Millennium appealed this decision, claiming the hearing examiner considered impacts inconsistent with the scope of the Cowlitz County SMA (K&L Gates LLP 2017). The Shoreline Hearings Board did not find that the hearing examiner’s decision was outside the scope of SMA or SMP and ultimately upheld the hearing examiner’s decision to deny Millennium the permits (Shoreline Hearings Board 2018).

CCC 19.15 Critical Areas Protection Ordinance and CCC 16.25 Floodplain Management Ordinance

As directed under the GMA, the counties are required to designate and protect critical areas as part of their Comprehensive Plans. The Critical Areas Protection Ordinance (CAPO) defines five critical areas: wetlands, geologically hazardous areas, aquifer recharge areas, fish and wildlife habitat conservation areas, and frequently flooded areas. Millennium’s project proposes to develop within all five of these areas (Cowlitz County 2016c) and therefore requires a CAP from the Cowlitz County

Department of Building and Planning. Before the Department of Building and Planning could make a decision on the CAP, Millennium needed to submit a Critical Areas Assessment and a Conceptual Mitigation Plan (Grette Associates 2017a; 2017b). Based on these documents, Millennium's CAP application was approved, and the company received their very first official permit (Luck 2017b). This approval was not appealed (Luck 2017c).

The Floodplain Management Ordinance (FMO) requires projects to obtain a floodplain permit from the Department of Building and Planning in order to develop on lands designated as frequently flooded areas, one of the five critical areas enumerated in the CAPO. Millennium's project would require development within Columbia River floodplains, however, there is no indication that a floodplain permit application was filed or that the permit was approved.

Conclusion

This chapter reviews the regulatory frameworks guiding the permitting process for the Millennium Bulk Coal Export Terminal and illuminates the complex nature of such a process when it involves multiple levels of government. As this chapter shows, the state has an overwhelming majority of the regulatory authority to determine the fate of the Millennium terminal, regardless of national or local interests. For example, the state used the CWA Section 401 to effectively block the Millennium terminal, even though the CWA is a federal regulation and despite the community favor of the project, and became involved in a federal lawsuit because of their decision. Differences in values between these scales of government are clear, particularly in the scope of environmental reviews

and in resulting permitting decisions. For example, the state decided to include the global implications of the terminal in their SEPA analysis while the federal government did not feel this was necessary in their NEPA analysis. The state also did not issue any permits to Millennium; the only successful permit application was for the county's CAP. Combined with the previous historical chapter (Chapter III), this chapter provides an objective lens through which to view such a controversial project engulfed in social and legal conflict and together, these chapters allow for a critical conceptualization of these events within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance in the next chapter.

CHAPTER V

ANALYSIS

Introduction

The events that have occurred during the Millennium Bulk coal export terminal permitting process discussed in Chapter III and their regulatory contexts discussed in Chapter IV have illuminated five key themes. The first is that the state's decision to deny Millennium their key permits has more to do with the state's interest in furthering their political goal to combat climate change rather than as a result of friction in the community. The second is that supporters of the terminal within the community are more inclined to focus on the potential for economic benefit rather than the environmental risks, even if that reward comes with great risk. Third, federalism's allocation of decision-making responsibilities between the federal and state governments has led to inter-scalar tensions resulting in a prolonged legal and permitting process. Fourth, the Millennium terminal's struggle to stay afloat despite a neoliberal Presidential administration favoring coal is due to not only to its position as a midstream point in the fossil fuel commodity chain, but also because coal's specific materiality makes it more salient in the midstream communities. Lastly, public involvement in the permitting process, while beneficial in providing a space for the public to have their voices heard, can also result in permitting delays. These themes affirm the central argument of this thesis: the complexity and extended duration of the Millennium Bulk coal export terminal permitting process is the result of the multiplicity of interests acting upon it, including those of state government(s), the divided public, the federal government, and private companies.

This chapter zeros in on local level consequences from a dual perspective, using political ecology to address the interaction between the community, Millennium, and the environment from the bottom up and political economy of natural resources to address the effects of larger political and economic factors on the community from the top down. This dual perspective is viewed through the lens of environmental governance in order to link all of these processes together. The objective of this chapter is to conceptualize the Millennium permitting process events and legal context within these three frameworks, meeting research objective O2: *explore how the Millennium Bulk Terminal permitting process is reconciled within the framework of environmental governance* and research objective O3: *determine how social dimensions are incorporated into the decision-making process.*

Analysis

Political Ecology: Fractured

As discussed in Chapter II, one of the key concerns for political ecologists is the social conflict or community friction that arises from the potential for environmental degradation as a consequence of fossil fuel development, primarily extraction, that promises economic growth. For example, Himley (2013) examines community mobilization as a result of poor working conditions in a local Peruvian gold mine and Perreault (2006) investigates community resistance to neoliberal reforms that affected access to drinking water and promoted export of natural gas. In both cases, the social conflict that emerged from these socioeconomic and environmental conditions, which became violent on several occasions, provided both private companies and the state with

the impetus to take action to quell the community unrest. While there is stark division in the Longview community over the proposed Millennium terminal that has resulted in vociferous protests and palpable hostility¹⁰ between community members over economic and environmental concerns, I argue that in this particular case, it is not the community unrest that led to state government action to deny the project. Rather, the state of Washington has a particular political interest against approval of the Millennium terminal that would have led to permit denials even in the absence of any social discordance. Unlike what political ecological theory might predict, change did not occur from the ground up, but instead happened from the top down.

Social conflict in political ecology is often seen as the violent result of uneven distribution of both economic benefits and negative environmental impacts caused by extractive industries in non-industrialized countries (Watts 1999; Zalik 2004; Perreault 2006; Himley 2013; Delgado 2017a). However, community friction (Tsing 2005) is an example of social conflict that lies on the non-violent side of the social conflict spectrum that arises from a multiplicity of opinions, perspectives, meanings, goals, and values. This particular case study of the Millennium Bulk coal export terminal is an example of nonviolent conflict—friction—in a community over the environmental costs and economic benefits of a potential fossil fuel transport facility. At the core of these conflicts, whether violent (such as in the case studies enumerated above) or otherwise (such as in this case study), is the exploitation of marginalized communities by fossil fuel industries in order to produce wealth for the industries at the expense of the

10. As noted in Chapter 3, the tensions between community members were predominantly civil when expressed in formal settings; however during public hearings, reporters note shouting, hollering, and vigorous sign shaking (Bernard 2016).

environmental and public health of those communities. The conflict that arises is the result of a commodified natural resource moving along its commodity chain. In this particular case study, community members on both sides of the argument become politically marginalized; Millennium's agenda marginalizes those in the community who do not want to suffer the environmental consequences of the terminal. The state's agenda and non-democratic decisions marginalize those who are relying on construction of the terminal for jobs and economic growth. Millennium has been touting the economic gains the community can expect to see during and after development of the terminal. Millennium anticipates the terminal will create 1,350 jobs during construction and 135 jobs at full capacity (Berk 2012). The testimony gathered from archival work and interviews presented in Chapter III show that for some, these numbers represent an opportunity for Longview to heal the economic wounds left by the Great Recession. Others believe the terminal would be responsible for new chronic environmental wounds that far outweigh the small number of jobs created. The volatility of coal prices in recent years adds another layer of uncertainty for the opposition. One interviewee summed up these concerns:

The concerns were really three-fold. One was about the local impact of moving that much additional coal through their neighborhoods, the impact that the piles of coal near the water that the coal terminal is going to have. There were people concerned about the health impacts of that many trains ... that much dust moving through the communities. ... The second major concern raised by people [was] about the climate change impacts of increasing US coal trade. ... There are water resources and fisheries resources that could be affected by the increased boat traffic, could be affected by spills, could be affected by coal being kicked off and coal dust from trains themselves. ... The last piece of opposition came from people sort of justifiably concerned about a boom and bust...International coal markets are very volatile, and people forget how volatile they are. The U.S., particularly the Powder River Basin, is not very well positioned to

participate in overseas markets. ... Right now, we're in a period of high prices, and it may last for a couple of years, but it could also collapse just the way it collapsed before (James C., 6 August 2018, telephone interview).

This interviewee highlighted the key points in the debate over whether the area's economic or environmental health should take precedence, which is typical of these types of case studies in political ecological work concerning environmental degradation (Perreault 2006; Auyero 2009; Himley 2013; Delgado 2017a; Delgado 2017b; Frantál 2017). Accordingly, it was one of the main topics discussed by a community member interviewee¹¹ who described the Longview community as “fractured” (Derek F., 6 July 2018, interview) along these lines. Ultimately, the state decided that preventing any potential harm to the environment was the ultimate priority and in the best interest of its citizens. This is an example of a government agency operating under the precautionary principle by acting to “protect human health and the environment in the face of uncertain risks” (Kriebel et al. 2001, 871), which, in this case, bolsters Washington state's environmentalist political agenda.

One of the potential indicators that public opposition and social conflict were responsible for state government action to deny permits for the Millennium terminal is that environmental groups have taken a lot of credit for rallying the public and subduing coal export development in the PNW. However, it was not necessarily that there were more voices for the opposition than supporters, but that the opposition had become equipped with powerful regional and national environmental groups that possess the financial resources and legal clout to amplify those voices. As iterated in Chapter III, this

² As noted in Chapter 1, the interviews were not coded for analysis since the sample size was not large enough for statistical significance. Interviews are used as a supplementary source of information for triangulation of archival data.

amplification often manifested itself in the form of environmental groups taking the lead to file permit appeals and become highly participatory interveners in state and federal lawsuits. This is not unusual; large environmental groups, especially those with high levels of public recognition, have access to these “scarce power resources” that foster the “advance[ment of] their interests” (Bixler et al. 2015, 169). Proponents, on the other hand, though they have the support of several industry groups in court, did not have these organizations to elevate their cause in this way, and were therefore seen as less influential than their environmentalist counterparts.

Another potential indicator that community opposition was responsible for the state’s decisions to deny permits is that the reasons cited in these denials, just like much of the opposition’s reasons, are environmental in nature (see Chapters III and IV). This has led to the conflation of the environmental with the political in the Millennium permitting process. In this regard, the state’s decision to block the terminal on the grounds of environmental protection aligns with the environmental degradation pillar of political ecology (Blaikie and Brookfield 1987; Castree 2000; Watts 2003; Billo 2012; Himley 2013; Delgado 2017b). The Millennium project, according to the state, will elicit both global environmental consequences by contributing to climate change and local consequences as a direct result of the terminal’s operation and indirect effects of climate change (see Chapters III and IV). Climate change is one of the key environmental issues in the debate over the Millennium terminal. Climate change is also one of the pillars of Washington State’s Governor Jay Inslee’s political platform (see Chapters I through III), leading to little surprise that state agencies would want such impacts considered in a project’s EIS. As previous chapters have shown, supporters of the Millennium project

believe that including climate change in the environmental review presents too broad a scope of analysis that places Longview and its residents in “economic jeopardy” (Phiel 2014). This statement, however, may be considered an admission by project proponents that the environmental implications of the project are too severe and widespread for approval, regardless of any economic benefits. Environmentalism is the backbone of Washington state politics and for that reason, I argue that state agencies would not have approved permits for the Millennium terminal even if there was no pushback from the community because of the myriad identified negative environmental impacts the terminal is expected to have.

Though the divided nature of the Longview community over the potential coal export terminal project made the area ripe for social conflict, this conflict did not manifest itself as physical violence and instead took the form of heated social and political debate. In political ecology, this conflict is typical of communities confronted with fossil fuel development or infrastructure projects that pose threats to the environment but promise economic growth (*see inter alia* Auyero and Swistun 2009; Delgado 2017a; Delgado 2017b; Frantál 2017). However, this conflict is not responsible for the state government’s actions to deny permits for the terminal, who instead made these decisions in order to further solidify the state’s environmentalist political agenda.

Political Economy of Natural Resources: Poverty is a Bigger Killer

Chapter II outlines some of the key concerns for political economists studying natural resources, who examine the top-down processes that affect local communities, including how capitalist economic activities create disproportionate levels of

environmental degradation and economic wealth (Altvater 1990; Bridge 2000; Auyero and Swistun 2009; Delgado 2017b) and how a multiplicity of actors are involved in or affected by those activities. Following this, the second contradiction of capitalism states that capitalism degrades its own conditions of production (O'Connor 1996), leading companies to find a spatial fix (Harvey 1982) for capital accumulation. In this section, I argue that Longview is a historically economically depressed community which instills a sense of acceptance among local government and many community members for capitalist activities looking to spatially fix problems of underconsumption like the Millennium terminal that will inevitably degrade their environment. I also argue that while the Millennium terminal itself does not align with the second contradiction of capitalism, the consequences of its operation do.

As discussed in Chapter I of this thesis, Longview has long suffered from high unemployment and poverty levels as a result of the loss of industry since the 1970s and the heavy impact of the Great Recession. Despite poor economic activity, or perhaps because of it, Longview is an attractive place to build a massive export facility. According to Longview Mayor Don Jenson, "Longview is a great place where rail, river, and roads all come together, making it ideal for export projects" (2016). This sentiment expressed by the mayor is shared by much of the local government, who were responsible for the approval of several of Millennium's early county permits. As one interviewee put it:

It's the transportation hub. The fact that we have local political leadership which is willing to listen to any project that comes in the door, because we have been considered a lower-income and underemployed county for this area makes us a target for a lot of those projects which will tout jobs as though jobs were the only justification (Dana L. 10 August 2018, in-person interview).

Washington state agencies' decisions to deny permits have been criticized by those who stand to benefit from the terminal as "unfair" and "dangerous to the future of economic development in Washington" (Richards 2017). A spokesperson for the Alliance for Northwest Jobs and Exports believes there are "very real and deep-seated concerns about the lack of support for family-wage jobs in Southwest Washington and the genuine need for apprenticeship opportunities to build the next generation of skilled labor in our state. This project will yield tangible economic benefits for the people of Longview, in a community built for these kind of trade and export investments" (quoted in Richards 2017). As Chapter III of this thesis shows, residents of Longview seem to be fully aware of the environmental risk of housing what would be the largest coal export terminal in the country and are "concerned for the environment, as well, but poverty is a bigger killer" (quoted in Storrow 2018). Based on the frustration parts of the community have expressed as a result of the permit denials, it is apparent that many feel disempowered or politically marginalized by the state, who have placed the environment as a priority over the economic well-being of a community still trying to recover from previous economic downturns. There is a clear battle between maintaining Longview's historical identity as an industrial town and a more recent "green" Washington identity. Longview's historical identity comes with the often-unrealized promise of jobs and economic growth at the expense of environmental and public health, a compromise many community members are more than willing to make.

The second contradiction of capitalism (O'Connor 1996), by which the commodification and capital accumulation of nonrenewable resources inevitably destroys

its own conditions of production, is evident in the entirety of fossil fuel extraction operations. The Millennium project, however, as a facility at the midstream point of the coal commodity chain, does not abide wholly by this contradiction. This is because its intended operations do not, in this sense, produce any commodity; it will merely transport an already commodified resource from the PRB through Washington. The terminal also will not result in environmental degradation *in situ* (that is, in Longview) that will preclude it from continuing its operation. It will, on the other hand, indirectly undermine its own conditions of production. Spatially fixing (Harvey 1982) the problem of domestically unprofitable coal markets will encourage the accelerated domestic production of coal. The more coal that is produced and transported to overseas markets, the less coal becomes readily available for future extraction and transport, thus degrading the resource that will enable capital accumulation for Millennium in the first place and leading to scarcity. This scarcity is what triggers the second contradiction of capitalism (Robbins 2014, 106); however, the Millennium terminal is only indirectly affected by it—the upstream mining industries have the control over the production or preservation of coal resources and the surrounding environment and are therefore directly affected by the second contradiction of capitalism at the point of extraction. The environment at the point of extraction presents a limit to economic growth. If the PRB runs out of coal, Millennium will have another capital accumulation problem to spatially fix by finding other geographic suppliers of coal.

Environmental degradation is a critical focus point for both political ecologists and political economists studying natural resources. Like political economic theory explains, politically marginalized communities like Longview are disproportionately

threatened by capitalist ventures like the Millennium terminal and the negative environmental externalities that come with it, but the promise of a better economic future draws acceptance of these projects, primarily from local government officials. The goal behind the Millennium terminal is to spatially fix the problem of the underconsumption of domestic coal supplies, though its operation will ultimately fall victim to the second contradiction of capitalism once its resources for capital accumulation are exhausted.

Environmental Governance: Political Theater

As discussed in Chapter II, environmental governance is concerned with the involvement of informal political actors in the decision-making process, the scale of environmental decision making, and neoliberal environmental policies characterized by deregulation. In this section, I argue that public involvement in the decision-making process for controversial projects like the Millennium terminal is in part responsible for the extended permitting processes that make approval of these projects a particularly arduous task. I also argue that federalism produces a shift in regulatory authority from the federal government to the states that causes unique tensions between these levels of government when their goals, interests, or values do not align with one another. In addition to the strong environmental values of the PNW states, exhibited by The Thin Green Line, I argue that neoliberal federal policies have not proven effective for encouraging coal export in the PNW because of the cumulative effect of the specific materiality of coal and the location of these terminals on the midstream point of the coal commodity chain.

Public involvement is a key component of both NEPA and SEPA, intended to provide opportunities for stakeholders to voice the concerns and values of the local community and encourage awareness about the environmental implications of proposed projects and collaboration among stakeholders. Just as Krueger's (2002) work on the reform that took place in the gold mine permitting process in Montana, which encouraged public involvement in environmental impact assessments that ultimately led to delays in the permitting process, the same effect has been seen from public involvement in the coal export terminal permitting process in the PNW. NEPA and SEPA legislation allow any ordinary individual with qualms about a project or its EIS to file an appeal, even if there is no legal standing for such an appeal, leading to often unnecessary permitting delays. The scoping and DEIS comment periods, open to all members of the public, for the Millennium terminal yielded hundreds of thousands of comments. Not surprisingly, it takes a great amount of time to appropriately sort through and analyze such an enormous number of comments; as noted in Chapter III, the SEPA DEIS took two and a half years to release following the scoping period and an additional year to release the FEIS. Krueger (2002) also discusses implicit reforms in permitting policy as a result of the shift away from environmentally destructive industries, which manifest themselves as potentially intentional delays on behalf of decision-makers. Additionally, if community friction and public support or opposition do not provide an impetus on the state's final decision, this can lead to further feelings of disempowerment on behalf of those that feel their voices were not listened to. As one business stakeholder put it, rejection of key permits despite support of the project from the community "lays bare the real regulatory process in Washington state is political theater" (quoted in Connelly 2017).

As Chapters III and IV show, federalism also poses unique challenges for coal export projects as state governments in the PNW maintain a large amount of regulatory authority over permit approvals that challenge federal neoliberal goals and policies. For example, the NEPA EIS, published by a federal agency, found fewer adverse effects of the terminal than the SEPA EIS, published by state and local agencies, and the former also did not consider the broader effects on global climate change while the latter did, which shows great incongruence between federal and state values when conducting environmental assessments. An even larger discrepancy is evident in the resistance against neoliberal economic policies, which aim to normalize fossil fuel development and suggest that adverse environmental impacts are merely a concession that must be made in order to achieve economic growth. I contend that a key reason why neoliberal policies have not proven effective for coal export in the PNW is due to the cumulative effect of the specific materiality of coal and the position of export terminals at the midstream point of the global coal commodity chain. The materiality of specific natural resources is what determines whether or not a resource can be commodified and if it is commodifiable, how to transport and store it (Bridge 2004). The biophysical characteristics of coal do not lend themselves to transport via pipeline like oil and natural gas. When these commodities are transported by pipeline, the commodity itself is invisible—until a spill or explosion occurs. Coal, on the other hand, must be transported via rail in railcars that are typically uncovered, in which not only is the coal itself visible regardless of whether an accident occurs, but so are its toxic byproducts such as coal dust, which can seep into nearby bodies of water and choke the surrounding air. As previous chapters have shown, these consequences of coal transport have been a key platform of

environmental groups and concerned community members for opposition to the terminal and has shown itself to be the foundation of the state's rejection of key permits, providing a solid defense—a thin green line—against the attempted normalization of coal export through neoliberal policies.

While the inclusion of informal political actors—the public—is a useful component in environmental assessments for projects like the Millennium terminal, this involvement has resulted in delays in the permitting process, which then adds to the friction and unrest already present in the local community. The delays and frustration public involvement has created in the Millennium terminal permitting process are further exacerbated by the effects of tensions between state and federal governments as a result of delegated regulatory authority under a federalist government structure, creating issues of scale. A major point of contention is Washington state's so far successful attempts to challenge federal neoliberal policies intended to encourage fossil fuel development, which the Thin Green Line has thwarted. These policies have not successfully promoted coal export in the PNW because the specific materiality of coal is not conducive for inconspicuous transport at the midstream point of the coal commodity chain.

Conclusion

The overarching objective of this chapter is to conceptualize the Millennium Bulk coal export terminal permitting process within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance. The chapter integrated the relevant literature within these bodies of work presented in Chapter II with the archival data organized and presented in Chapters III and IV to arrive at five

key conclusions. The first conclusion is that the Millennium permitting process deviates from political ecology theory because the state's permit denials were not a result of nor were they intended to quell community friction, but were rather government actions intended to further the state's environmentalist political agenda by operating under the precautionary principle. The second conclusion aligns with political economic theory in that supporters of this fossil fuel transport project prioritize the potential for economic growth rather than negative environmental externalities as a result of the Millennium terminal because of the community's industrial identity and history of economic depression. The third conclusion is that federalism's delegation of federal and state powers has led to tensions between these levels of government that have extended the Millennium permitting process support the environmental governance literature concerned with the issues that arise from rescaling of decision making. The fourth conclusion is that the Millennium terminal has not followed the typical trajectory of neoliberal environmental governance in the United States because the cumulative effect of the specific materiality of coal and the terminal's position at the midstream point of the coal commodity chain renders it more salient than other fossil fuels. The final conclusion that the inclusion of informal political actors from the community has contributed to the extensive permitting delays for the terminal strays from most environmental governance literature that public involvement is beneficial, but aligns with that literature that contends that government actions that stray from community values can lead to further community friction. The conceptualization of the terminal within these bodies of work has aided in answering RQ2: *what is environmental governance and how does the*

terminal conform with or deviate from its theories and frameworks? and RQ3: *how have social dimensions been represented in the decision-making process?*

CHAPTER VI

CONCLUSION

In the last decade, the PNW has repeatedly been faced with the coal industry's attempts to turn the region into a gateway to the Asian energy market. The emergence of multiple proposals to develop coal export terminals was a response to both high coal prices prime for export around 2010 and dwindling domestic coal consumption levels (EIA 2011a; EIA 2013a). These attempts, however, have not been successful, due in part to a growing resistance to fossil fuel infrastructure projects known as "the thin green line" (Sightline Institute 2019). This resistance is fueled by state government campaigns, particularly in Washington state, to reduce carbon emissions and combat climate change by moving away from fossil fuel consumption and toward renewable energy systems (Inslee 2018). In the case of the proposed Millennium Bulk coal export terminal in Longview, Washington, the state's environmental agenda has led to clashes with the goals and values of the federal government under Trump's administration, materializing in federal lawsuits of national interest, as well as community-level friction between those concerned with the environmental impacts of such projects and those eagerly anticipating a much needed economic boost in the area.

The overarching objective of this thesis has been to illustrate the complexity of the Millennium permitting process that arose from the interaction of a multiplicity of interests acting upon it. To explore these varying interests, this thesis has used the theoretical frameworks of political ecology and political economy of natural resources as a dual perspective linked by environmental governance frameworks. These frameworks

have allowed for an examination of multiscale interactions that result in political and economic decisions with broad implications and local-level community discord. The resulting study presents the evolution of the Millennium permitting process, facilitated by relentless legal action in favor of the terminal, but hindered more dramatically by an environmentalist state agenda.

This thesis explores the Millennium Bulk coal export terminal permitting process as both a legal and a social process and conceptualizes these events within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance. Chapter II provides a critical review of the relevant literature within these bodies of work. In Chapter III, I use extensive archival work to present a brief historical account of previous coal export terminal proposals in the PNW, followed by a detailed timeline of events in the Millennium permitting process. Chapter IV unpacks the assemblage of federal, state, and local regulations applicable to Millennium in its permitting process and highlights the complexity that federalism introduces to the process. In Chapter V, I integrate the relevant bodies of literature, historical data, and regulatory frameworks presented in the previous chapters to assess how the Millennium permitting process is negotiated within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance to arrive at five main conclusions.

This thesis contributes to several bodies of literature including critical resource geography, environmental governance, and energy resource management. The research presented in this thesis contributes to the literature on critical resource geography as it relates to fossil fuels and the friction created as a result of the multiplicity of actors

involved along the commodity chain, particularly in communities at the midstream point. This thesis shows that contradictory and conflictive relationships between fossil fuel industries and community members exist beyond the extraction site, which is representative of Delgado's (2017a) conceptualization of the extensive spatial reach of fossil fuels along the hydrocarbon commodity chain. One of the primary arguments of this thesis is that this friction is not necessarily always an impetus for change from the ground-up. Rather, state governments with particular political agendas may take certain actions only to further these agendas, regardless of lower-level community interests and values or the friction between them. Another central argument of this thesis is that, as introduced in Chapter II and further developed in Chapter V, the materiality of raw materials mediates resource development at different points in the commodity chain. In this case, coal's specific materiality makes it especially salient as it passes through midstream communities en route to its final destination abroad and therefore poses a unique challenge for acquiring sufficient community and state acceptance.

This thesis also contributes to the field of environmental governance by identifying a potential limitation of neoliberalism in promoting fossil fuel development. The midstream point of the fossil fuel commodity chain is a critical juncture that often gets overshadowed by the federal government's heightened fervor for fossil fuel extraction and consumption. As the empirical research presented in Chapter III shows, obstruction of midstream infrastructure development can produce obstacles for extractive industries that intend to spatially fix the problem of the under-accumulation of capital. Additionally, this thesis contributes to energy resource management literature through the identification of gaps or vagueness in energy policy, as presented in Chapter IV,

particularly when untangling a web of federalism in determining which level of government holds regulatory authority for permitting decisions under which statutes.

The timing of this thesis is particularly important for several reasons. First, the Millennium Bulk coal export terminal is the last of its kind in the PNW, though it barely has a pulse. Along these lines, final federal and state court cases have not all been resolved yet. This provides an interesting context by which to conceptualize the events in the Millennium permitting process within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance. Additionally, whatever happens in these court cases that decides the ultimate fate of the terminal could serve as a precedent for future terminals in the region.

Addressing Research Objectives

Chapter I lists a series of research objectives necessary to satisfy the ultimate purpose of this research, which is to present the argument that the complexity and extended duration of the Millennium Bulk coal export terminal permitting process is the result of the multiplicity of interests acting upon it. This section reviews the research objectives this thesis set out to meet and the methods used to fulfill these objectives and answer the research questions asked throughout this thesis.

Explore how the Millennium Bulk Terminal permitting process is reconciled within the frameworks of political ecology, political economy of natural resources, and environmental governance

- O1a) Perform a critical review of the relevant literature in political ecology, political economy of natural resources, and environmental governance

By conducting a critical review of the relevant literature within these bodies of work in Chapter II, I build the foundation for later conceptualizing the Millennium terminal permitting process within these bodies of work and ultimately satisfying this objective. This allowed me to answer the first part of RQ1): *What are the main pillars of political ecology, political economy of natural resources, and environmental governance and how does the terminal conform with or deviate from their theories and frameworks?*

- O1b) Provide a detailed historical account and timeline of the Millennium permitting process

This sub-objective was entirely satisfied through the use of extensive archival work and isolated quotes from semi-structured interviews presented in Chapter III. In order to understand how the permitting process is reconciled with the above bodies of literature, the events that have taken place during this permitting process need to be understood and clearly delineated within their legal, political, and economic context. I was able to build this timeline by gathering legal documents, government reports, and newspaper articles and using quotes from semi-structured interviews conducted during my fieldwork to support the archival data. By meeting this objective, I was able to continue answering RQ1 and lay the foundation for answering RQ2): *What are the specific laws and regulations in place that govern the Millennium permitting process at the federal, state, and local levels and what are the implications of these laws for the state and for Millennium?* and RQ3): *How have social dimensions been represented in the decision-making process?*

- O1c) Frame the Millennium permitting process within the theoretical frameworks of political ecology, political economy of natural resources, and environmental governance.

By tying together all of the data gathered from the literature review, archival data, and semi-structured interviews, Chapter V frames the Millennium permitting process within these bodies of work, satisfying this sub-objective and providing the final piece necessary to satisfy O1 in its entirety. Meeting this objective allows for complete answers to RQ1 and RQ3.

O2): Assess the legal frameworks in place that guide the permitting process for the Millennium Bulk Terminal

- O2a) Identify the relevant rules, regulations, and laws that have been referenced in permit application or decision materials and court filings relating to the Millennium terminal

In Chapter III, I introduce the legal frameworks identified throughout my archival work. Chapter IV provides more thorough information about these frameworks. This sub-objective was entirely met using archival work and allowed me to begin answering RQ2 and provide further detail necessary to answer RQ3.

- O2b) Explore the extent to which these legal frameworks have been implicated in permitting decisions or court filings for the Millennium terminal

Like O2a, Chapter III laid the foundation for satisfying this objective while Chapter IV provided the necessary information to fulfill this objective entirely. Ultimately, meeting this objective allowed me to fully answer RQ2.

O3): Determine how social dimensions are incorporated into the decision-making process

- O3a) Conduct semi-structure interviews with community members, environmental groups, and government officials

This objective was met during my fieldwork in the summer of 2018. While my sample size was not large enough to conduct a formal analysis on these interviews, by isolating quotes from these interviews, I was able to support and triangulate data collected during my archival work presented in Chapter III. These interviews have therefore helped to answer RQ1 and RQ3.

- O3b) Analyze documents that identify and discuss social dimensions

As this objective suggests, it was met by conducting archival work that discusses any sort of participation by the public in the permitting process. This participation includes attending public hearings and meetings, submitting comments to government agencies, protesting, or filing civilian lawsuits. These social dimensions were presented in Chapter III and helped to answer RQ1 and RQ3.

- O3c) Explore the extent to which these social processes were taken into consideration and/or incorporated into the decision-making process.

This objective was met through the archival work presented in Chapters III and IV as well as in my own conceptualization within the theoretical frameworks that I present in Chapter V. As I suggest in Chapter V, social dimensions such as community friction were not the impetus behind state government action to block the Millennium terminal. The opportunity for public participation is required by law under NEPA and SEPA, as discussed in Chapter IV, but it appears that it was

simply a formality rather than a driving force behind state decisions. This in turn provides answers for RQ1, RQ2, and RQ3.

Recommendation

In this section, I provide a recommendation for resource managers and policy makers as a result of the data collected and analyzed in this thesis. As previously mentioned in this chapter, this research has highlighted gaps and areas of vagueness in energy policy that has in part resulted in a particularly complex and extended permitting process for Millennium. The following recommendation addresses one of these areas in the hopes that its adoption will allow for a more efficient and effective permitting process for similar infrastructure projects.

GHGs and Climate Change in Environmental Reviews

As discussed in Chapter IV, President Trump rescinded the CEQ's guidelines concerning the inclusion of direct and indirect GHGs of a project as a proxy for assessing a project's impact on climate change in its NEPA analysis (Trump 2017b). Updated guidelines have not yet been released. It is therefore my recommendation that updated guidelines on this issue be finalized and published as part of NEPA in order to reduce or potentially eliminate future cause for disagreement and associated friction that can result in legal action concerning the scope of environmental reviews. In the absence of finalized NEPA guidelines, SEPA rules should dictate the extent of GHG and climate change impacts to be included in SEPA environmental reviews rather than state agencies having to rely on substantive SEPA authority for permitting decisions, which has proven to be

controversial and also cause for legal action. Publishing guidelines for this issue will provide more clarity for resource managers and decision makers on what the scope of their environmental analysis should be for a project and what factors should be included in the decision-making process. It is in my opinion, based on the magnitude of public and state concern about climate change impacts discussed in this thesis, that both NEPA and SEPA guidelines should include both direct and indirect impacts of GHGs on climate change for all projects that require an EIS. Climate change is a global issue with localized effects. The United States does not exist in a bubble shielded from the adverse effects of climate change on both global and local temperature changes, snowpack levels, precipitation levels, and the effects that these changes have on local ecosystems and resource use associated with these impacts. It is in the best interest of both U.S. and global citizens for the federal and state governments to prevent projects with expected significant and adverse effects on GHGs and climate from being approved.

Limitations

The research conducted for this thesis relied extensively on archival data, including secondary accounts of events that took place during the Millennium permitting process. Initial renditions of this research focused heavily on obtaining ethnographic data, primarily from tribal communities and local community members, that would have allowed for formal analyses on this data. However, I was unable to gain consent from the tribal communities to involve them in my research and despite reaching out to 50 community members, I only received one response. At that point, data could only be collected from archival sources. Only eight total interviews were conducted during my

fieldwork due to a lack of responses from the potential interviewees that I sought out. This low sample size was not significant, and therefore no formal analysis was conducted on these interviews. I was able to isolate quotes from these interviews instead and use that data to triangulate the data collected from archival work in order to support the statements and arguments made throughout this thesis. This research would have benefitted extensively from significant interview data to provide stronger support for the archival data collected.

There were several conditions and challenges that contributed to this limitation of my research and the resulting methodology. The first is my positionality as a novice female researcher with little experience doing immersive research in the contexts of indigenous relationships and contexts of poverty. It is of utmost importance to form connections and relationships with potential research participants prior to setting research sites and participant cohorts on which one's research relies, particularly with historically marginalized groups. This helps to establish rapport and trust between researcher and participant and my neglecting to do so is partially responsible for my extremely low response rate and subsequent drastic changes in methodology. Flexibility is therefore an important characteristic of any researcher, as the trajectory of one's research can be subject to change at any time because of such challenges that may arise. Because of these challenges, it is also important to maintain open and honest relationships with one's research advisors, both for support in dealing with such challenges and ideally for preventing them in the first place by addressing personal concerns with safety and financial constraints (such as those that I dealt with in this research) that preclude the researcher from engaging fully in the established research protocols and methodologies.

The characterization of Longview as an industrial city and the high crime rate in the area made my positionality as a female researcher more salient, to the point that I felt engaging in immersive research in this unfamiliar area would have risked my personal safety. The other option of traveling back and forth, which would have meant I did not have to remain in the area at all times, was financially unfeasible. During the visits that I did make to the community, I was always accompanied by my research assistant in order to reduce concerns about my safety. It is important to recognize one's own personal limitations that can create obstacles to research and work with one's advisors to develop ways to either overcome such limitations or work around them in positive ways.

Additionally, because the state and federal court cases have not been resolved, the research presented in this thesis, particularly the timeline in Chapter III, is left open-ended. This unresolved and presently controversial aspect of this research is also a likely contributor to the lack of participant responses, particularly from the community.

Future Research

Based on the above limitations of the present research, there are several directions for future research. The incorporation of extensive ethnographic work, including additional interviews as well as participatory observation, would benefit this research by providing a stronger source of triangulation for the archival work conducted for this thesis. This ethnographic work would be able to provide a first-hand account of how divisiveness and friction have manifested in the Longview community as a result of the Millennium terminal permitting process. Additionally, once the ongoing lawsuits have been resolved, it would be interesting to reconceptualize the permitting process within the

theoretical frameworks discussed throughout this thesis to determine whether or not the analysis presented in Chapter V still holds up in light of future events. Lastly, the literature on critical resource geography might benefit from a comparison between the permitting processes of proposed coal export terminals that have failed to take hold in the PNW, such as the Millennium terminal, and coal export terminals currently operating around the United States, particularly on the East Coast, as well as in Canada to gain additional insight into what factors hinder or promote the approval of such facilities.

REFERENCES

- 115 H.R.J.Res. 115, 131 Stat. 10 (2017).
<https://www.congress.gov/115/plaws/publ5/PLAW-115publ5.pdf>.
- Ahrens, M.J., and D. Morrissey. 2005. Biological effects of unburnt coal in the marine environment. *Oceanography and Marine Biology* 43: 69-122.
- Allen, M., S. Bird, S. Breslow, and N. Dolšak. 2017. Stronger together: Strategies to protect local sovereignty, ecosystems, and place-based communities from the global fossil fuel trade. *Marine Policy* 80: 168-176.
<https://doi.org/10.1016/j.marpol.2016.10.019>.
- Altheide, D. L. Ethnographic content analysis. *Qualitative Sociology* 10 (1): 65-77.
<https://doi-org.ezp.lib.cwu.edu/10.1007/BF00988269>.
- Altwater, E. 1990. The foundations of life (nature) and the maintenance of life (work). *International Journal of Political Economy* 20(1): 10-34.
<https://www.jstor.org/stable/27861841>.
- Ambre Energy Limited. 2011. Annual Report. Ambre Energy Limited, Brisbane, Australia.
- — —. 2019. Our Company. <https://ambreenergy.com.au/>. (accessed August 22, 2019).
- Anchor QEA, LLC. 2010. Millennium Bulk Logistics project description: Longview terminal facility maintenance and improvements. Anchor QEA, LLC, Seattle, Washington.
- Aqua-Terr Systems, Inc. 1996. Settlement Agreement: Pacific International Terminals: Shoreline Substantial Permit SHS 92-0020 and SHB Appeals Numbers 97-22 and 97-23. <http://www.coaltrainfacts.org/docs/1999-settlementagreement.pdf>. (accessed July 2019).
- Arch Coal Inc. 2011. Arch Coal, Inc. reports fourth quarter and full year 2011 results. <http://investor.archcoal.com/phoenix.zhtml?c=107109&p=irol-newsArticle&ID=1659418>. (accessed June 17, 2019).
- — —. 2019. About us. <http://www.archcoal.com/aboutus/>. (accessed August 22, 2019).
- Auyero, J., and D.A. Swistun, 2009. *Flammable: Environmental suffering in an Argentine shantytown*. Oxford: University Press.

- Axinn, W.G., L.D. Pearce, and D. Ghimire. 1999. Innovations in life history calendar applications. *Social Science Research* 28 (3): 243-264. doi: 10.1006/ssre.1998.0641.
- Bailey, S. 2016. Cowlitz County profile. <https://esd.wa.gov/labormarketinfo/county-profiles/cowlitz>. (accessed March 23, 2019).
- Bakker, K.J. 2003. A political ecology of water privatization. *Studies in Political Economy: A Socialist Review* 70(1): 35-58. <https://doi.org/10.1080/07078552.2003.11827129>
- Ballew II, T. 2013. letter to Colonel B.A. Estok. July 30, 2013. <http://www.coaltrainfacts.org/docs/Lummi-letter-to-USACOE.pdf>. (accessed July 20, 2019).
- Barham, B., S. Bunker, and D. O'Hearn (eds.). 1994. *States, firms and raw materials: The world economy and ecology of aluminum*. Madison: University of Wisconsin Press.
- Baumgarten, K. 2011. letter to A. Steinberg. August 4, 2011. http://www.coaltrainfacts.org/docs/E-DOE-Violation-Letter-to-SSA-20110804_PIT_warningletter.pdf. (accessed July 8, 2019).
- Belli, R. F., W.L. Shay, and F.P. Stafford. 2001. Event history calendars and question list surveys. *Public Opinion Quarterly* 65 (1): 45-74. <https://www.jstor.org/stable/3078785>.
- Bellingham Business Journal. 2012. Lummi Nation speaking out against Cherry Point terminal. *Bellingham Business Journal* 20 September. <http://bbjtoday.com/blog/lummi-nation-speaking-out-against-cherry-point-terminal/18268/>. (accessed July 8, 2019).
- Bellon, M.D. 2017a. letter to K. Gaines, October 23, 2017.
- — —. 2017b. letter to K. Gaines, September 26, 2017. <https://ecology.wa.gov/DOE/files/83/8349469b-a94f-492b-acca-d8277e1ad237.pdf>. (accessed June 26, 2019).
- — —. 2017c. Section 401 Water Quality Certification denial (order no. 15417) for Corps Public Notice no. 2010-1225 Millennium Bulk Terminals-Longview, LLC coal export terminal – Columbia River at River Mile 63, near Longview, Cowlitz County, Washington. <https://ecology.wa.gov/DOE/files/83/8349469b-a94f-492b-acca-d8277e1ad237.pdf>. (accessed August 16, 2019).

- Berk. 2012. Economic & fiscal impacts of Millennium Bulk Terminals Longview. <https://www.co.cowlitz.wa.us/DocumentCenter/View/13350/Exhibit-C-14-Economic-and-Fiscal-Impacts-of-Millennium-Bulk-Terminals-Longview?bidId=>. (accessed October 23, 2019).
- Bernard, S. 2016. Coal terminal hearing pits labor against environment – again. *Seattle Weekly* 25 May. <https://www.seattleweekly.com/news/coal-terminal-hearing-pits-labor-against-environment-again/>. (accessed September 29, 2019).
- Bernton, H. 2017. Departing DNR boss jolts Longview coal-terminal plan. *The Seattle Times* 3 January. <https://www.seattletimes.com/seattle-news/environment/dnr-boss-rejects-longview-coal-export-loading-dock-sublease/>. (accessed June 25, 2019).
- — —. 2018. Corps of Engineers moving forward with review of Longview coal terminal despite state objections. *The Seattle Times* 16 October. <https://www.seattletimes.com/seattle-news/corps-of-engineers-moving-forward-with-review-of-longview-coal-terminal-despite-state-objections/>. (accessed July 1, 2019).
- Billo, E.R. 2012. Competing sovereignties: Oil extraction, corporate social responsibility, and indigenous subjectivity in Ecuador. PhD. diss., Syracuse University.
- Bixler, R.P., J. Dell’Angelo, O. Mfunne, and H. Roba. 2015. The political ecology of participatory conservation: institutions and discourse. *Journal of Political Ecology* 22: 164-182. <https://doi.org/10.2458/v22i1.21083>
- Black, B.C. 2012. Oil for living: Petroleum and American conspicuous consumption. *Journal of American History* 99 (1): 40-50. <https://doi.org/10.1093/jahist/jas022>.
- Black, D., T. McKinnish, and S. Sanders. 2005. The economic impact of the coal boom and Bust. *The Economic Journal* 115 (503): 449-476. <https://www.jstor.org/stable/3590402>.
- Blaikie, P. and H. Brookfield. 1987. *Land degradation and society*. New York: Routledge.
- Bloomberg NEF. 2018. Emerging markets outlook 2018. <http://global-climatescope.org/assets/data/reports/climatescope-2018-report-en.pdf>. (accessed March 23, 2019).
- Bobbink, M. 1997. Findings of fact, conclusions of law, and Major Development Permit and Shoreline Substantial Development decision. https://www.ezview.wa.gov/Portals/_1357/images/default/MDP%20SHS%20Permits.pdf (accessed July 8, 2019).

- Bounds, W.J., and K.H. Johannesson. 2007. Arsenic addition to soils from airborne coal dust originating at a major coal shipping terminal. *Water, Air, and Soil Pollution* 185 (1-4): 195-207. doi: 10.1007/s11270-007-9442-9.
- Bowen, G.A. 2009. Document analysis as a qualitative research method. *Qualitative Research Journal* 9 (2): 27-40. doi: 10.3316/QRJ0902027.
- Box-Steffensmeier, A.M., and B.S. Jones. 2004. *Event history modeling: A guide for social scientists*. New York: Cambridge University Press.
- Boyd, W., W.S. Prudham, and R.A. Schurman. 2001. Industrial dynamics and the problem of nature. *Society & Natural Resources* 14(7): 555-570. <https://doi.org/10.1080/08941920120686>
- Brasier, K.J., M.R. Filteau, D.K. McLaughlin, J. Jacquet, R.C. Stedman, T.W. Kelsey, and S.J. Goetz. 2011. Residents' perceptions of community and environmental impacts from development of natural gas in the Marcellus Shale: A comparison of Pennsylvania and New York cases. *Journal of Rural Social Sciences* 26 (1): 32-61.
- Breskin Johnson Townsend, PLLC. 2018. California, et al.'s amicus brief ISO defendant's MSJ on preemption issues. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20180821_docket-318-cv-05005_amicus-brief-1.pdf. (accessed July 1, 2019).
- Bridge, G. 2000. The social regulation of resource access and environmental impact: production, nature and contradiction in the US copper industry. *Geoforum* 31: 237-256. [https://doi.org/10.1016/S0016-7185\(99\)00046-9](https://doi.org/10.1016/S0016-7185(99)00046-9)
- — —. 2004. Gas, and how to get it. *Geoforum* 35: 395-397. doi: 10.1016/j.geoforum.2004.05.002
- — —. 2009. Global production networks and the extractive sector: governing resource-based development. *Journal of Economic Geography* 8: 389-419. doi: 10.1093/jeg/lbn009.
- Bridge, G., and T. Perreault. 2009. Environmental governance. In *A Companion to Environmental Geography*, ed. N. Castree, D. Demeritt, D. Liverman, and B. Rhoads, 475-497.
- Bridges, M., and M. Wallin. 2017. The working class outside the Seattle bubble needs Longview's coal-export terminal. *Seattle Times* 4 May.

- <https://www.seattletimes.com/opinion/the-working-class-outside-the-seattle-bubble-needs-longviews-coal-export-terminal/>. (accessed March 23, 2019).
- Bryan, R.J. 2018a. Order on motion of BNSF Railway Company to intervene as plaintiff. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20180326_docket-318-cv-05005_order-1.pdf. (accessed June 29, 2019).
- — —. 2018b. Order on defendant Hilary Franz’s motion for summary judgment under the Eleventh Amendment. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20181023_docket-318-cv-05005_order-2.pdf. (accessed July 1, 2019).
- — —. 2018c. Order on defendants’ and intervenor-defendants’ motions for partial summary judgment. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20181211_docket-318-cv-05005_order.pdf. (accessed July 1, 2019).
- — —. 2019a. Order on defendant’s and intervenor-defendants’ motions for partial summary judgment on BNSF Foreign Affairs Doctrine claim. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2019/20190401_docket-318-cv-05005_order-1.pdf. (accessed July 1, 2019).
- — —. 2019b. Order staying case. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2019/20190411_docket-318-cv-05005_order.pdf. (accessed July 2, 2019).
- Bulkeley, H. 2001. Governing climate change: The politics of risk society? *Transactions of the Institute of British Geographers* 26(4): 430-447. <https://www.jstor.org/stable/3650659>.
- Bullivant Houser Bailey PC. 2018. Amicus brief in opposition to defendants’ motion for abstention by Wyoming, Kansas, Montana, Nebraska, South Dakota and Utah. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2018/20180508_docket-318-cv-05005_amicus-brief-1.pdf. (accessed June 29, 2019).
- Bureau of Labor Statistics. 2017. Longview, WA. Economy at a glance. https://www.bls.gov/eag/eag.wa_longview_msa.htm. (accessed March 23, 2019).
- Business Wire. 2010. FedEx ground distribution hub in Troutdale, Ore. <https://www.thestreet.com/story/10903617/1/fedex-ground-distribution-hub-in-troutdale-ore-photo-business-wire.html>. (accessed March 23, 2019).

- Butterfield, A. 2018. Millennium coal loses again.
<https://earthjustice.org/news/press/2018/millennium-coal-loses-again>. (accessed March 23, 2019).
- Cagey, H. 1997. letter to M. Knapp. February 5, 1997.
<https://whatcomcounty.us/DocumentCenter/View/2836/Historical-Documents---1997-Documents-PDF?bidId=>. (accessed July 10, 2019).
- Cama, T., and D. Henry. 2016. Trump outlines ‘America First’ energy plan. *The Hill* 26 May. <https://thehill.com/policy/energy-environment/281430-trump-outlines-america-first-energy-plan>. (accessed July 11, 2019).
- Castree, N. 2000. Marxism and the production of nature. *Capital and Class* 24(3): 5-36.
<http://dx.doi.org/10.1177/030981680007200102>
- Castree, N., and B. Braun. 1998. The construction of nature and the nature of construction. In *Remaking Reality: Nature at the Millennium*, ed. B. Braun and N. Castree, 2-41. London: Taylor & Francis.
- Chapman, B. 2018. Why shipping coal to Asia makes ecological sense.
<https://crosscut.com/2018/04/why-shipping-coal-asia-makes-ecological-sense>. (accessed March 23, 2019).
- Chicago Tribune. 2017. House GOP dismantles Obama regulation protecting streams from coal mining debris.
<https://www.chicagotribune.com/news/nationworld/politics/ct-congress-gop-obama-rules-20170201-story.html>. (accessed March 23, 2019).
- City of Longview, WA. 2012. Demographics.
<https://www.mylongview.com/361/Demographics>. (accessed March 23, 2019).
- Columbia Riverkeeper. 2016. Millennium coal terminal DEIS released.
<https://www.columbiariverkeeper.org/news/2016/4/millennium-coal-terminal-deis-released>. (accessed June 24, 2019).
- — —. 2017. Proposed coal export terminal in SW Washington will cause significant and long-lasting harm to people, community, climate, and Columbia River.
<https://www.columbiariverkeeper.org/news/2017/4/proposed-coal-export-terminal-sw-washington-will-cause-significant-and-long-lasting>. (accessed June 25, 2019).
- The Columbian. 2011. Coal export terminal studied at Hoquiam. *The Columbian* 28 July.
<https://www.columbian.com/news/2011/jul/28/coal-export-terminal-studied-at-hoquiam/>. (accessed July 3, 2019).

- — —. 2013. Millennium Bulk Terminals lands pretrial win in court.
<https://www.columbian.com/news/2017/jun/01/millennium-bulk-terminal-lands-pretrial-win-in-court/>. (accessed August 22, 2019).
- Congressional Research Service. 2017. The U.S. coal industry: historical trends and recent developments.
https://www.everycrsreport.com/files/20170818_R44922_d2fde6a9ab22ed951d390af83d4d95ffc216d707.pdf. (accessed March 23, 2019).
- Considine, T.J. 2015. A significant threat to coal exports from the Powder River Basin: The proposed default provision for federal coal royalties.
<https://cloudpeakenergy.com/wp-content/uploads/2015/10/considine-study.pdf>. (accessed March 23, 2019).
- Corvin, A. 2012. As rail lines come to life, towns, trains, collide.
<https://www.columbian.com/news/2012/oct/20/freight-fight-as-rail-lines-come-to-life-towns-and/>. (accessed June 20, 2019).
- Council on Environmental Quality. 2016. Final guidance for Federal departments and agencies on consideration of greenhouse gas emissions and the effects of climate change in National Environmental Policy Act reviews.
https://ceq.doe.gov/docs/ceq-regulations-and-guidance/nepa_final_ghg_guidance.pdf. (accessed August 8, 2019).
- Cowlitz County. 2016a. Millennium Bulk Terminals—Longview SEPA geology and soils technical report.
https://www.millenniumbulkeiswa.gov/assets/mbtl_technicalreport_geologysoils.pdf. (accessed September 23, 2019).
- — —. 2016b. Chapter 4. Natural environment: Existing conditions, project impacts, and proposed mitigation measures.
https://www.millenniumbulkeiswa.gov/assets/section_4-3_wetlands.pdf. (accessed August 16, 2019).
- — —. 2016c. Chapter 3. Built environment: Existing conditions, project impacts, and proposed mitigation measures.
https://www.millenniumbulkeiswa.gov/assets/chapter_3_built_environment.pdf. (accessed August 19, 2019).
- — —. 2017a. Millennium Bulk Terminals.
<http://www.co.cowlitz.wa.us/index.aspx?nid=1559>. (accessed March 23, 2019).
- — —. 2017b. Chapter 1: Natural environment and resource element.
<http://www.co.cowlitz.wa.us/DocumentCenter/View/12457>. (accessed March 23, 2019).

- — —. 2017c. Chapter 5.7: Coal dust.
https://www.millenniumbulkeiswa.gov/assets/section_5-7_coal_dust_v2.pdf.
 (accessed June 7, 2019).
- — —. 2017d. Cowlitz County comprehensive plan 2017 update.
<http://www.co.cowlitz.wa.us/DocumentCenter/View/12997>. (accessed August 16, 2019).
- — —. 2018. Millennium Bulk Terminals—Longview Health Impact Assessment, November 2018. <http://www.co.cowlitz.wa.us/DocumentCenter/View/15492>.
 (accessed March 23, 2019).
- Cowlitz County Department of Building & Planning. 2010. Review number 10-10-1184
 Modified mitigated determination of non-significance. Cowlitz County
 Department of Building & Planning, Kelso, WA.
- Cowlitz County and Department of Ecology. 2016a. Summary.
<https://www.millenniumbulkeiswa.gov/assets/introduction5.17.pdf> (accessed
 September 23).
- — —. 2016b. Millennium Bulk Terminals-Longview State Environmental Policy Act
 Draft Environmental Impact Statement. Millennium Bulk Longview SEPA EIS,
 Kelso, WA and Lacey, WA.
- — —. 2016c. Notice of availability of Draft Environmental Impact Statement for the
 State Environmental Policy Act and notice of public hearings.
[https://fortress.wa.gov/ecy/separ/Main/SEPA/Document/DocumentOpenHandler.
 ashx?DocumentId=37211](https://fortress.wa.gov/ecy/separ/Main/SEPA/Document/DocumentOpenHandler.ashx?DocumentId=37211). (accessed June 24, 2019).
- — —. 2017. Millennium Bulk Terminals-Longview State Environmental Policy Act
 Final Environmental Impact Statement. Millennium Bulk Longview SEPA EIS,
 Kelso, WA and Lacey, WA.
- Cowlitz County Hearing Examiner. 2017. Findings of fact, conclusions of law and
 decision denying permits.
[https://earthjustice.org/sites/default/files/files/Millennium-Bulk-
 Terminals_Findings-Facts.pdf](https://earthjustice.org/sites/default/files/files/Millennium-Bulk-Terminals_Findings-Facts.pdf). (accessed June 29, 2019).
- Creswell, J.W. and D.L. Miller. 2000. Determining validity in qualitative inquiry. *Theory
 into Practice* 39 (3): 124-130. doi: 10.1207/s15430421tip3903_2.
- Cronon, W. 1996. *Uncommon ground: Rethinking the human place in nature*. New York:
 W.W. Norton & Company.

- Crowe, J., T. Silva, R.G. Ceresola, A. Buday, and C. Leonard. 2015. Differences in public perceptions and leaders' perceptions on hydraulic fracturing and shale development. *Sociological Perspectives* 58 (3): 441-463. doi: 10.1177/0731121414567355.
- Culverwell, W. 2014. Oregon rejects Ambre coal terminal appeal. *Portland Business Journal* 2 October. <https://www.bizjournals.com/portland/blog/sbo/2014/10/oregon-rejects-ambre-coal-terminal-appeal.html>. (accessed July 3, 2019).
- The Daily News. 2015. Ecology sets new date on Millennium terminal study. *The Daily News* 23 October. https://tdn.com/news/local/ecology-sets-new-date-on-millennium-terminal-study/article_d8658537-3154-5d7c-b8eb-d9ed0d836081.html. (accessed June 24, 2019).
- — —. 2017. Millennium to host Summer Shindig event Thursday. *The Daily News* 16 August. https://tdn.com/news/local/millennium-to-host-summer-shindig-event-thursday/article_a3bbdb89-c5b4-5916-94a2-c2f4b37564d0.html. (accessed October 24, 2019).
- — —. 2019. State approves cleanup plan for old Reynolds Metals site. *The Daily News* 26 January. https://tdn.com/news/local/state-approves-cleanup-plan-for-old-reynolds-metals-site/article_016b16b7-4753-5ff4-8382-158a9d431b7c.html. (accessed July 1, 2019).
- Davenport, C. 2019. Judge delivers major setback to Trump policy to increase coal mining on federal land. *The New York Times* 19 April. <https://www.nytimes.com/2019/04/19/climate/court-trump-coal-mining-setback.html>. (accessed June 8, 2019).
- Davis, R. 2014. Oregon Department of State Lands rejects Ambre Energy coal export permit, dealing major blow. https://www.oregonlive.com/environment/2014/08/oregon_department_of_state_land_1.html. (accessed July 3, 2019).
- Delgado, E. 2016. Energy geographies: thinking critically about energy issues in the classroom. *Journal of Geography in Higher Education* 40(1): 39-54. <http://dx.doi.org/10.1080/03098265.2015.1089475>
- — —. 2017a. Conflictive Energy Landscapes: *Petrocasas* and the Petrochemical Revolution in Venezuela. In *The Routledge Research Companion to Energy Geographies*, ed. S. Bouzarovski, M.J. Pasqualetti, and V.C. Broto, 330-346. Routledge Press.

- — —. 2017b. From Wetland to Saltland: Natural obstacles and socioecological consequences in the production of solar salt in Venezuela. *Society & Natural Resources* 30 (7): 797-811. <https://doi.org/10.1080/08941920.2017.1290181>.
- — —. 2018. Fracking Vaca Muerta: Socio-economic implications of shale gas extraction in Northern Patagonia, Argentina. *Journal of Latin American Geography* 17 (3): 102-131. <https://muse.jhu.edu/article/708945>.
- Department of Commerce. 2018. 2019 Biennial Energy Report. <http://www.commerce.wa.gov/wp-content/uploads/2013/01/COMMERCE-Biennial-Energy.pdf>. (accessed October 24, 2019)
- Department of Ecology. 2017a. State Environmental Policy Act Final Environmental Impact Statement. http://www.millenniumbulkeiswa.gov/assets/mbtl_sepa_final-eis_volume_i_04252017_web_sm2.pdf. (accessed March 23, 2019).
- — —. 2017b. Key permit denied for Longview coal terminal project. https://ecology.wa.gov/About-us/Get-to-know-us/News/2017/Sep-26-Key-permit-denied-for-Longview-coal-termina_ (accessed March 23, 2019).
- — —. 2017c. Summary. <http://www.millenniumbulkeiswa.gov/assets/introduction5.17.pdf>. (accessed March 23, 2019).
- — —. 2018. Millennium Bulk Terminals Longview. <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-at-Ecology/Millennium>. (accessed March 23, 2019).
- — —. 2019. Millennium Bulk Terminals Longview. <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-at-Ecology/Millennium>. (accessed August 12, 2019).
- Doublerly, E.B. 2003. Fire-protection guidelines for handling and storing PRB coal. <https://www.conspec-controls.com/assets/docs/articles/Power-1003-Fireprotection.pdf>. (accessed March 23, 2019).
- Earthjustice. 2010. Petition for Review. <http://earthjustice.org/sites/default/files/LongviewPetition121310.pdf>. (accessed June 14, 2019).
- Environmental & Land Use Hearings Office. 2011. Climate Solutions; Columbia Riverkeeper; Sierra Club, and Washington Environmental Council v. Cowlitz County and Millennium Bulk Logistics Inc. and Dept. of Ecology (Intervenor). <http://www.eluho.wa.gov/Decision/PrintCaseDetail/4614>. (accessed June 19, 2019).

- Escobar, A. 1998. Whose knowledge, whose nature? Biodiversity, conservation, and the political ecology of social movements. *Journal of Political Ecology* 5(1): 53-82. doi: <https://doi.org/10.2458/v5i1.21397>.
- Engle, N.L. 2013. The role of drought preparedness in building and mobilizing adaptive capacity in states and their community water systems. *Climatic Change* 118 (2): 291-306. doi: 10.1007/s10584-012-0657-4.
- Estok, B.A. 2014. U.S. Army Corps of Engineers scope of analysis and extent of impact evaluation for National Environmental Policy Act environmental impact statement. [http://millenniumbulkeiswa.gov/test/assets/mbtl-nepa-eis-scope-mfr-\(14feb2014\).pdf](http://millenniumbulkeiswa.gov/test/assets/mbtl-nepa-eis-scope-mfr-(14feb2014).pdf). (accessed August 8, 2019).
- Ferguson, R.W. 2018. Defendants' motion for dismissal and motion for abstention. <https://wlflegalpulse.files.wordpress.com/2018/03/dkt-20-mtn-to-dismiss.pdf>. (accessed June 29, 2019).
- Foundation for Water and Energy Education. 2017. What makes the Columbia River Basin unique and how we benefit. <http://fwee.org/environment/what-makes-the-columbia-river-basin-unique-and-how-we-benefit/>. (accessed March 23, 2019).
- Frantál, B. 2014. A curse of coal? Exploring unintended regional consequences of coal energy in the Czech Republic. *Moravian Geographical Reports* 22 (2): 55-65. <https://doi.org/10.2478/mgr-2014-0012>.
- — —. 2017. Under the curse of coal: Mined-out identity, environmental injustice and alternative futures for coal energy landscapes. In *The Routledge Research Companion to Energy Geographies*, ed. S. Bouzarovski, M.J. Pasqualetti, and V.C. Broto, 200-216. Routledge Press.
- Franz, H.S. 2017. letter to M. Stiffler, October 24, 2017. <https://www.co.cowlitz.wa.us/DocumentCenter/View/13500> (accessed June 27, 2019).
- Friedman, L. 2018a. "E.P.A. will ease path to new coal plants." *The New York Times* 4 December. <https://www.nytimes.com/2018/12/04/climate/epa-coal-carbon-capture.html>. (accessed June 8, 2019).
- — —. 2018b. "New E.P.A. plan could free coal plants to release more mercury into the air." *The New York Times* 28 December. <https://www.nytimes.com/2018/12/28/climate/mercury-coal-pollution-regulations.html>. (accessed June 8, 2019).

- Gallagher, D. 2017. Developers withdraw coal terminal applications, ending project. *The Bellingham Herald* 9 February. <https://www.bellinghamherald.com/news/local/article131783149.html>. (accessed July 8, 2019).
- Ginsberg, B. S. 2012. letter to Colonel B.A. Estok and M. Walker, May 3, 2012.
- Globerman, S. 2013. Coal exports from the Pacific Northwest and the economic growth of the Northwest economy. <https://www.infrastructureusa.org/wp-content/uploads/2013/07/Globerman+WAFB+Export+Paper1.pdf>. (accessed March 23, 2019).
- Goldmark, P. 2017. letter to M. Stiffler, January 5, 2017. <https://www.columbiariverkeeper.org/sites/default/files/2017/01/01052017-CPL-Ltr-to-NW-Alloys.pdf>. (accessed June 25, 2019).
- Greenberg, J.B. and T.K. Park. 1994. Political ecology. *Journal of Political Ecology* 1(1): 1-12. doi: 10.2458/vli1.21154.
- Grette Associates. 2017a. Millennium Coal Export Terminal Longview, Washington – Coal export terminal including docks 2 and 3 and associated trestle: Critical Areas Assessment. Grette Associates, Wenatchee, WA.
- — —. 2017b. Millennium Bulk Export Terminal Longview, Washington – Coal export terminal including docks 2 and 3 and associated trestle: Conceptual Mitigation Plan—Wetlands and Aquatic Habitat. Grette Associates, Wenatchee, WA.
- Griggs, D.T. 1997. letter to R. Middleton. January 27, 1997. <https://whatcomcounty.us/DocumentCenter/View/2836/Historical-Documents---1997-Documents-PDF?bidId=>. (accessed July 10, 2019).
- Groom, N. 2018. U.S. eyes West Coast military bases to export coal, gas: report. *Reuters* 15 October. <https://www.reuters.com/article/us-usa-trump-coal/u-s-eyes-west-coast-military-bases-to-export-coal-gas-report-idUSKCN1MP2I8>. (accessed July 11, 2019).
- Gruben, M. 2019. State Court of Appeals judges uphold DNR’s denial of Millennium sublease. *The Daily News* 21 August. https://tdn.com/news/local/state-court-of-appeals-judges-uphold-dnr-s-denial-of/article_3aaec96f-22f6-5ea5-9e81-f63bd564ec30.html. (accessed September 25, 2019).
- Hale, Z. 2018. Anti-coal protesters accuse commissioner of going ‘too far’ on D.C. trip. *The Daily News* 16 June. <https://tdn.com/news/local/anti-coal-protesters-accuse->

commissioner-of-going-too-far-on/article_cf05fbcf-23a2-5dfd-8036-ef5d94554335.html. (accessed July 13, 2019).

Hall, D.S. 2008. By the numbers: greenhouse gas emissions and the fossil-fuel supply chain in the United States. In *Assessing U.S. Climate Policy Options*, ed. R.J. Kopp and W.A. Pizer, 23-38. Washington DC: Resources for the Future.

Harrell, M.C. and M.A. Bradley. 2009. Data collection methods: Semi-structured interviews and focus groups. RAND Corporation, Santa Monica, CA. <http://www.dtic.mil/dtic/tr/fulltext/u2/a512853.pdf>.

Harvey, D. 1982. *The limits to capital*. Chicago: University of Chicago Press.

— — —. 2003. *The new imperialism*. Oxford: University Press.

Hasselman, J. 2010. email to M. Wojtowicz, October 21, 2010.

Hawaii State Energy Office. 2019. Home. <http://energy.hawaii.gov/>. (accessed March 23, 2019).

Hayes, D.J. 2012. Infrastructure project executive order. <https://www.doi.gov/blog/infrastructure-projects-executive-order1>. (accessed June 20, 2019).

Hendryx, M. 2008. Mortality from heart, respiratory, and kidney disease in coal mining areas of Appalachia. *International Archives of Occupational and Environmental Health* 82: 243-249. doi: 10.1007/s00420-008-0328-y.

Himley, M. 2008. Geographies of environmental governance: The nexus of nature and neoliberalism. *Geography Compass* 2(2): 433-451. doi: 10.1111/j.1749-8198.2008.00094.x

— — —. 2013. Regularizing extraction in Andean Peru: Mining and social mobilization in an age of corporate social responsibility. *Antipode* 45(2): 394-416. doi: 10.1111/j.1467-8330.2012.01001.x

Hobbs, L. 2010. email to M. Laccinole, November 5, 2010.

Holder, P. 2012. Coal cargo terminal at Cherry Point raises concern. *San Juan Journal* 3 February. <http://www.coaltrainfacts.org/docs/SanJuanJournal.pdf>. (accessed July 8, 2019).

ICF International. 2014. Scoping summary report: Millennium Bulk Terminals – Longview SEPA Environmental Impact Statement. ICF International, Seattle, WA

- Inslee, J. 2018. Policy brief securing Washington's clean energy future.
https://www.governor.wa.gov/sites/default/files/policy_briefs/ClimateChange_PolicyBrief2018.pdf. (accessed March 23, 2019).
- — —. 2019. Inslee and Ferguson denounce Trump assault on the Clean Water Act.
<https://www.governor.wa.gov/news-media/inslee-and-ferguson-denounce-trump-assault-clean-water-act>. (accessed July 1, 2019).
- International Energy Agency. 2018a. IEA Atlas of Energy.
<http://energyatlas.iea.org/#!/tellmap/-1076250891/4>. (accessed March 23, 2019).
- — —. 2018b. Global Energy & CO₂ Status Report 2017.
<https://www.iea.org/publications/freepublications/publication/GECO2017.pdf>.
 (accessed March 23, 2019).
- Intergovernmental Panel on Climate Change. 2018. Summary for policymakers. In *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*, ed. V. Masson-Delmotte, P. Zhai, H.O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield, 1-32. World Meteorological Organization, Geneva, Switzerland.
https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15_SPM_version_stand_alone_LR.pdf.
- International Renewable Energy Agency. 2018. Renewable capacity statistics 2018. International Renewable Energy Agency, Abu Dhabi. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Mar/IRENA_RE_Capacity_Statistics_2018.pdf.
- Jalbert, K., A. J. Willow, D. Casagrande, and S. Paladino. 2017. *ExtrACTION: impacts, engagements, and alternative futures*. London: Routledge, Taylor & Francis Group.
- Jenson, D. 2016. Momentum building for Millennium Bulk Terminals-Longview.
<https://kelsolongviewchamber.org/news/momentum-building-millennium-bulk-terminals-longview>. (accessed March 23, 2019).
- Johnson, K. 2016. AWB statement on Millennium Bulk Terminal Draft EIS.
<https://www.awb.org/2013-press-release?y=2016&p=3&id=974>. (accessed June 24, 2019).

- K&L Gates, LLP. 2017. Petition for Review. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2017/20171204_docket-S17-17c_petition-for-review.pdf. (accessed June 29, 2019).
- Kaitala, D. 2017. email to R. Melin. October 8, 2017. <https://www.co.cowlitz.wa.us/DocumentCenter/View/13463>. (accessed June 25, 2019).
- Kammerer, J.C. 1990. Largest rivers in the United States. OFR 87-242, U.S. Geological Survey, Department of the Interior, Renton, Virginia. <https://pubs.usgs.gov/of/1987/ofr87-242/pdf/ofr87242.pdf>.
- Keep Washington Competitive. 2017. Final SEPA ruling announced for Millennium Bulk Terminals. <https://keepwashingtoncompetitive.com/final-sepa-ruling-announced-millennium-bulk-terminals-2/>. (accessed June 25, 2019).
- Kriebel, D., J. Tickner, P. Epstein, J. Lemons, R. Levins, E.L. Loechler, M. Quinn, R. Rudel, T. Schettler, & M. Stoto. 2001. The precautionary principle in environmental science. *Environmental Health Perspectives* 109(9): 871-876. <https://www.jstor.org/stable/3454986>
- Krueger, R. 2002. Relocating regulation in Montana's gold mining industry. *Environment and Planning A: Economy and Space* 34(5): 867-881. <https://doi.org/10.1068/a3430>
- LaBoe, B., and T. Lystra. 2011. Group claims Millennium misrepresented scope of coal project. *The Daily News* 15 February. https://tdn.com/news/local/group-claims-millennium-misrepresented-scope-of-coal-project%20/article_e892c86a-393b-11e0-ba50-001cc4c002e0.html. (accessed June 18, 2019).
- Lafontaine, P. 2012. Pacific port community dodges a coal-shaped bullet. *National Wildlife Federation* 15 August. <https://blog.nwf.org/2012/08/pacific-port-community-dodges-a-coal-shaped-bullet/>. (accessed July 3, 2019).
- Learn, S. 2012. Port of St. Helens approves coal export agreements with two companies. *The Oregonian* 26 January. https://www.oregonlive.com/environment/2012/01/port_of_st_helens_approves_c_oa.html. (accessed July 3, 2019).
- — —. 2013a. Another Northwest coal export project falls by the wayside; Kinder Morgan drops Oregon terminal plan. *The Oregonian* 8 May. https://www.oregonlive.com/environment/2013/05/another_northwest_coal_export.html. (accessed July 3, 2019).

- — —. 2013b. Port of Coos Bay coal-export proposal ends of 18 months of work. *The Oregonian* 2 April. https://www.oregonlive.com/environment/2013/04/port_of_coos_bay_coal-export_p.html. (accessed July 3, 2019).
- Lemos, M.C., and A. Agrawal. 2006. Environmental governance. *Annual Review of Environment and Resources* 31: 297-325. doi: 10.1146/annurev.energy.31.042605.135621
- Lighthouse Resources, Inc. 2015. Ambre Energy changes name to Lighthouse Resources Inc. <https://www.lighthouseresourcesinc.com/single-post/2015/04/13/Ambre-Energy-Changes-Name-to-Lighthouse-Resources-Inc>. (accessed August 22, 2019).
- — —. 2018. Lighthouse Resources files federal lawsuit against Washington State for violating Constitution, federal law. <https://www.lighthouseresourcesinc.com/news/manage-your-blog-from-your-live-site>. (accessed March 23, 2019).
- Longhurst, R. 2016. Semi-structured interviews and focus groups. In *Key Methods in Geography*, ed. N. Clifford, M. Cope, T. Gillespie, S. French, 143-156, Sage Publications: pp. 143-156.
- Lower Columbia Estuary Partnership. 2015. State of the estuary. <http://www.estuarypartnership.org/sites/default/files/LCEP%20State%20of%20the%20Estuary%202015%20Final%20Small.pdf>. (accessed March 23, 2019).
- — —. 2017. River species. <http://www.estuarypartnership.org/learn/river-species>. (accessed March 23, 2019).
- Luccio, M. 2014. Survey. Dredge. Repeat: Keeping the Columbia River navigable. *xyHt* 20 December. <http://www.xyht.com/hydromarine/survey-dredge-repeat-keeping-columbia-river-navigable/>.
- Luck, M. 2017a. Millennium appeals state's denial of coal dock sublease. *The Daily News* 11 February. https://tdn.com/news/local/millennium-appeals-state-s-denial-of-coal-dock-sublease/article_1a70be78-0191-5eb1-bc50-4a9b4f4e78c6.html. (accessed June 25, 2019).
- — —. 2017b. Coal terminal gets first permit from county. *The Daily News* 9 July. https://tdn.com/news/local/coal-terminal-gets-first-permit-from-county/article_a322bb77-3fd0-5aa9-ad4e-c58ec3d67486.html. (accessed June 25, 2019).

- — —. 2017c. Millennium gets permit after appeals deadline passes unchallenged. *The Daily News* 22 August. https://tdn.com/news/local/millennium-gets-permit-after-appeals-deadline-passes-unchallenged/article_cf2beeca-5e43-5aac-9033-d87b363e7d46.html. (accessed June 26, 2019).
- — —. 2017d. Judge sides with Millennium, says state unfairly denied sublease. *The Daily News* 28 October. https://tdn.com/news/local/judge-sides-with-millennium-says-state-unfairly-denied-sublease/article_b2fcb091-a15b-51ae-ae4a-c2e5861d0d4f.html. (accessed June 27, 2019).
- — —. 2017e. Key shoreline permits for coal dock denied. *The Daily News* 15 November. https://tdn.com/news/local/key-shoreline-permits-for-coal-dock-denied/article_2d4858fb-700d-5df1-955d-42c9456c6a42.html. (accessed June 29, 2019).
- — —. 2017f. Cutting cards: firefighters practice accident rescues. *The Daily News* 13 May. https://tdn.com/news/local/cutting-cars-firefighters-practice-accident-rescues/article_68945f34-7ed1-5462-9468-a0f1a1e34f0e.html. (accessed October 24, 2019).
- Lundy, R. 2018. Millennium lays off 15 percent of employees. *The Daily News* 15 November. https://tdn.com/news/local/millennium-lays-off-percent-of-employees/article_e9f7ebd8-bb42-5ac5-ae5d-1c93bd7a5be5.html. (accessed July 1, 2019).
- Lynn, W.T. 2012. letter to Colonel B. Estok and Colonel J. Eisenhower, May 25, 2012.
- Mansfield, B. 2004. Neoliberalism in the oceans: “Rationalization,” property rights, and the commons question. *Geoforum* 35:313-326. doi:10.1016/j.geoforum.2003.05.002
- Martin Associates. 2013. The local and regional economic impacts of the Port of Longview. <https://portoflongview.com/DocumentCenter/View/344/2013-POL-Economic-Impact-Analysis?bidId=>. (accessed March 23, 2019).
- — —. 2014. The 2013 Economic impact of the Port of Seattle. <https://www.portseattle.org/sites/default/files/2018-07/2013%20POS%20Economic%20Impact%20Report.pdf>. (accessed March 23, 2019).
- Mack, N., C. Woodsong, K.M. MacQueen, G. Guest, and E. Namey. 2005. *Qualitative research methods: A data collector’s field guide*. Research Triangle Park: Family Health International.
- Marx, K. 1967. *Capital: Volume I*. New York: International Publishers.

- McCarthy, J., and S. Prudham. 2003. Neoliberal nature and the nature of neoliberalism. *Geoforum* 35: 275-283. doi:10.1016/j.geoforum.2003.07.003
- McCoy, C., and L. Bloomer. 2017. Coal ash rule. <https://eelp.law.harvard.edu/2017/12/coal-ash-rule/>. (accessed June 8, 2019).
- McLerran, D.J. 2016. letter to Colonel J. Buck, November 29, 2016.
- Mefford, C., S. Cohen, D. Haring, A. Hudson, B. Lobel, and T. Schrag. 2013. Economic analysis of proposed coal train operations. <http://www.seattle.gov/Documents/Departments/economicDevelopment/CAI-OED-Coal-Train-Economic-Impacts-FINAL-2013-0813.pdf>. (accessed March 23, 2019).
- Mehretu, A., B.W. Pigozzi, and L.M. Sommers. 2000. Concepts in social and spatial marginality. *Geografiska Annaler. Series B, Human Geography* 82(2): 89-101. <https://www.jstor.org/stable/491067>
- Melin, R., and E. Placido. 2017. Staff report (Exhibit C-1). <https://www.co.cowlitz.wa.us/DocumentCenter/View/13347>. (accessed June 29, 2019).
- Millennium Bulk Logistics, Inc. 2010. Submission to Cowlitz County Board of Commissioners Re: Application for Shoreline Substantial Development Permits. Millennium Bulk Logistics, Inc, Bellingham, WA.
- Millennium Bulk Terminals Longview. 2012. Washington State Joint Aquatic Resources Permit Application (JARPA) form. US Army Corps of Engineers Seattle District, Seattle, WA.
- — —. 2017a. Millennium files claim against Ecology in Court; Appeals denial of Water Quality Certification. <http://webcache.googleusercontent.com/search?q=cache:sSrT0UUqZpsJ:www.millenniumbulk.com/wp-content/uploads/2017/10/Millennium-Files-Claim-against-Ecology-in-Court-Appeals-Denial-of-Water-Quality-Certification-1.pdf+&cd=1&hl=en&ct=clnk&gl=us&client=firefox-b-1-d> (accessed June 27, 2019).
- — —. 2017b. Millennium Bulk Terminals seeks fairness in the courts. <http://webcache.googleusercontent.com/search?q=cache:0Zy1GqcvqEIJ:millenniumbulk.com/millennium-bulk-terminals-seeks-fairness-courts/+&cd=1&hl=en&ct=clnk&gl=us&client=firefox-b-1-d>. (accessed June 29, 2019).

- Millennium Bulk Terminals-Longview, LLC. 2018. Our community. www.millenniumbulk.com/our-story/our-community/. (accessed March 23, 2019).
- Miller, J.W., and P. Brickley. 2016. Arch Coal files for bankruptcy. *The Wall Street Journal* 11 January. <https://www.wsj.com/articles/arch-coal-files-for-bankruptcy-1452500976>. (accessed June 25, 2019).
- Morse, J.M. 2003. Principles of mixed methods and multimethod research design. In *Handbook of Mixed Methods in Social & Behavioral Research*, ed. A. Tashakkori and C. Teddlie, 189-208, Sage Publications.
- Moser, A.J. 2011. Pragmatism not dogmatism: The inconvenient need for border adjustment tariffs based on what is known about climate change, trade, and China. *Vermont Journal of Environmental Law* 12: 675-711.
- Murphy, K. 2010. West Coast coal exports to China challenged on greenhouse gases. *Los Angeles Times* 13 December. <https://latimesblogs.latimes.com/greenspace/2010/12/coal-export-columbia-longview-china.html>. (accessed June 19, 2019).
- — —. 2011. Fight intensifies over West Coast coal exports to Asia. *Los Angeles Times* 15 March. <https://latimesblogs.latimes.com/greenspace/2011/03/coal-export-longview-washington-millennium.html>. (accessed June 19, 2019).
- Obama, B. 2013. The President's Climate Action Plan. <https://obamawhitehouse.archives.gov/sites/default/files/image/president27sclimateactionplan.pdf>. (accessed June 21, 2019).
- O'Connor, J. 1996. The second contradiction of capitalism. In *The Greening of Marxism*, ed. T. Benton, 197-221. New York: Guilford Press.
- Olson, E. 2010. Commissioners approve permit for Columbia River coal terminal. *The Daily News* 23 November. https://tdn.com/news/local/commissioners-approve-permit-for-columbia-river-coal-terminal/article_86c20c96-f736-11df-b8b5-001cc4c03286.html (accessed June 14, 2019).
- — —. 2011a. Millennium internal e-mail reveals goal of 80 million tons in annual coal exports. *The Daily News* 24 February. https://tdn.com/news/local/millennium-internal-e-mail-reveals-goal-of-million-tons-in/article_8a86fa28-4072-11e0-b60d-001cc4c002e0.html. (accessed June 18, 2019).
- — —. 2011b. Millennium focused on cleanup as coal terminal process plays out. *The Daily News* 13 June. <https://tdn.com/news/local/millennium-focused-on-cleanup>

- as-coal-terminal-process-plays-out/article_cb2a1b18-9627-11e0-aaa-001cc4c002e0.html. (accessed June 19, 2019).
- — —. 2011c. Groups sue Millennium over alleged Clean Water Act violations. *The Daily News* 9 August. https://tdn.com/news/local/groups-sue-millennium-over-alleged-clean-water-act-violations/article_ce213a80-c2e2-11e0-98b8-001cc4c002e0.html. (accessed June 19, 2019).
- — —. 2012. Rising Chinese demand could mean coal export boom for West Coast. *The Daily News* 27 March. https://tdn.com/news/local/rising-chinese-demand-could-mean-coal-export-boom-for-west/article_3d2d744c-7874-11e1-a248-0019bb2963f4.html. (accessed June 20, 2019).
- — —. 2013. Cowlitz County coal terminal hearing: A day of discussion. *The Daily News* 17 September. https://tdn.com/news/local/cowlitz-county-coal-terminal-hearing-a-day-of-discussion/article_dadc91e4-1fd7-11e3-ab05-0019bb2963f4.html. (accessed June 23, 2019).
- Olson-Hazboun, S., and H. Boudet. 2019. Companies blocked from using West Coast ports to export fossil fuels keep seeking workarounds. <https://www.apnews.com/eaacd2e2f720dfc0ca0480ab3b612bff>. (accessed June 18, 2019).
- Oregon and Washington Physicians for Social Responsibility. 2016. Oregon and Washington Physicians for Social Responsibility comments on Draft Environmental Impact Statement for Millennium Bulk Terminals in Longview. <https://www.columbiariverkeeper.org/sites/default/files/2016/06/Oregon-and-Washington-Physicians-for-Social-Responsibility-Comments-on-MBT-DEIS-6.13.2016.pdf>. (accessed March 23, 2019).
- Oregon Department of State Lands. 2014. letter from K.D. Jarvie to C. Moseley, August 18, 2014. <http://op.bna.com.s3.amazonaws.com/env.nsf/r%3FOpen%3Dsbra-9n5t2g> (accessed November 17, 2019)
- Oregon Public Broadcasting. 2017. Coal scorecard: Your guide to coal in the Northwest. <http://www.opb.org/news/article/coal-score-card/>. (accessed March 23, 2019).
- The Oregonian. 2010. Washington Department of Ecology seeks to intervene in suit against coal export terminal. *The Oregonian* 28 December. https://www.oregonlive.com/environment/2010/12/post_22.html. (accessed June 18, 2019).
- Pacific International Terminals. 2011. Washington State Joint Aquatic Resources Permit Application (JARPA) form.

- <https://whatcomcounty.us/DocumentCenter/View/2819/2010-JARPA-Form-PDF?bidId=>. (accessed July 10, 2019).
- Palmer, S.P., S.L. Magsino, E.L. Bilderback, J.L. Poelstra, D.S. Folger, and R.A. Niggemann. 2004. Liquefaction susceptibility map of Cowlitz County, Washington. OFR 2004-20, Washington Division of Geology and Earth Resources, Olympia, WA.
<http://www.co.cowlitz.wa.us/DocumentCenter/View/3148>.
- Pamuk, H. 2018. Trump targets pair of Obama-era green rules to boost oil, coal. <https://www.reuters.com/article/us-usa-energy-trump/trump-targets-pair-of-obama-era-green-rules-to-boost-oil-coal-idUSKBN1O52L7>. (accessed March 23, 2019).
- Paulson, S., L.L. Gezon, and M. Watts. 2003. Locating the political in political ecology: An introduction. *Human Organization* 62(3): 205-217.
<https://doi.org/10.17730/humo.62.3.e5xcjnd6y8v09n6b>
- Percival, R.V., C.H. Schroeder, A.S. Miller, and J.P. Leape. 2009. *Environmental regulation: Law, science, and policy*. 6th ed. New York, NY: Aspen Publishers.
- Perreault, T. 2006. From the *Guerra Del Agua* to the *Guerra Del Gas*: Resource governance, neoliberalism and popular protest in Bolivia. *Antipode* 38(1): 150-172. DOI: 10.1111/j.0066-4812.2006.00569.x
- Phiel, S. 2014a. Major rail corridor improvements pending in Longview, though funding uncertain. *The Daily News* 16 October. http://tdn.com/news/local/major-rail-corridor-improvements-pending-in-longview-though-funding-uncertain/article_31d399e8-55c4-11e4-a735-2bd3d03d7e2b.html. (accessed March 23, 2019).
- — —. 2014b. County commissioners rebuke Ecology officials over state coal review. *The Daily News* 6 November. https://tdn.com/news/local/county-commissioners-rebuke-ecology-official-over-state-coal-review/article_6199d1a8-662a-11e4-a1df-4334a1a9570b.html. (accessed June 24, 2019).
- Plumer, B. and N. Popovich. 2017. How will the Clean Power Plan repeal change carbon emissions for your state? *The New York Times* 10 October.
<https://www.nytimes.com/interactive/2017/10/10/climate/clean-power-plan-emissions-your-state.html>. (accessed March 23, 2019).
- Pollution Control Hearings Board. 2018. Order on summary judgment.
<http://www.eluho.wa.gov/Global/RenderPDF?source=casedocument&id=2468>. (accessed July 1, 2019).

- Popovich, N. 2018. Black lung disease comes storming back in coal country. *The New York Times* 22 February.
<https://www.nytimes.com/interactive/2018/02/22/climate/black-lung-resurgence.html?mtrref=www.nytimes.com>. (accessed June 8, 2019).
- Popovich, N., L. Albeck-Ripka, and K. Pierre-Louis. 2019. 83 environmental rules being rolled back under Trump. *The New York Times* 7 June.
<https://www.nytimes.com/interactive/2019/climate/trump-environment-rollbacks.html>. (accessed June 8, 2019).
- Port of Tacoma. 2010. Port of Tacoma leases to marine contractor for new Northwest base. <https://www.portoftacoma.com/news-releases/2010-03-23/port-tacoma-leases-marine-contractor-new-northwest-base>. (accessed March 23, 2019).
- Profita, C. 2017. Washington leaders deals a blow to coal exports on the Columbia River, Puget Sound. *Oregon Public Broadcasting* 3 January 2017.
<https://kcts9.org/programs/earthfix/washington-leader-deals-blow-coal-exports-columbia-river-puget-sound>. (accessed June 25, 2019).
- Protonotarios, V., N. Petsas, and A. Moutsatsou. 2002. Levels and composition of atmospheric particulates (PM₁₀) in a mining-industrial site in the City of Lavrion, Greece. *Journal of the Air & Waste Management Association* 52 (11): 1263-1273.
<https://doi.org/10.1080/10473289.2002.10470861>.
- Public Utilities Commission Nevada. 2019. Solar energy systems incentive program. http://puc.nv.gov/Renewable_Energy/Renewable_Programs/Solar_Energy/. (accessed March 23, 2019).
- Rasmusson, C. 2017. MRL gives tour of coal train derailment clean-up. *Sandpoint Reader* 2 November. <http://sandpointreader.com/mrl-gives-tour-coal-train-derailment-clean/>. (accessed March 23, 2019).
- Reynolds, N. 2019. Blackjewel claims there's a fire at abandoned Wyoming mine; DEQ says it's only smoke. *Star Tribune* 3 July.
https://trib.com/business/energy/blackjewel-claims-there-s-a-fire-at-abandoned-wyoming-mine/article_c3531fb5-e308-5983-9c52-bb848ac0ac8e.html. (accessed October 24, 2019).
- Richards, H. 2018. Port that could send Powder River Basin coal to Asia hits another roadblock. *Billings Gazette* 12 December. https://billingsgazette.com/news/state-and-regional/wyoming/port-that-could-send-powder-river-basin-coal-to-asia/article_5307c5ed-bea5-58d6-aeb8-d0cd0119614e.html. (accessed March 23, 2019).

- Richards, M. 2017. Labor urges passage of Millennium Bulk Terminals permit to boost economy, create jobs. <https://thelens.news/2017/10/12/labor-urges-passage-of-millennium-bulk-terminals-permit-to-boost-economy-create-jobs/>. (accessed September 8, 2019).
- Ridley Terminals. 2016. RTI 2016 annual report. http://www.rti.ca/sites/default/files/ridley_ar2016_english.pdf. (accessed March 23, 2019).
- Robbins, P. 2004. *Political ecology: a critical introduction*. Oxford: Blackwell.
- — —. 2014. *Environment and society: a critical introduction*. Chichester: John Wiley & Sons Ltd.
- Robertson, M. 2004. The neoliberalization of ecosystem services: Wetland mitigation banking and problems in environmental governance. *Geoforum* 35: 361-373. doi:10.1016/j.geoforum.2003.06.002
- — —. 2015. Political ecology and the state. In *The Routledge Handbook of Political Ecology*, ed. T. Perreault, G. Bridge, and J. McCarthy, 457-489.
- Sayre, G. 2017. Automobile. In *Fueling Culture: 101 Words for Energy and Environment*, ed. I. Szeman, J. Wenzel, and P. Yaeger, 54-56, Fordham University Press.
- Sayre, N.F. 2015. Scales and politics. In *The Routledge Handbook of Political Ecology*, ed. T. Perreault, G. Bridge, and J. McCarthy, 504-515, New York: Routledge.
- Schick, T. 2016. Cowlitz Tribe asserts opposition to Longview coal terminal. <https://www.opb.org/news/series/coal-in-the-nw/cowlitz-tribe-asserts-opposition-to-longview-coal-terminal/>. (accessed March 23, 2019).
- Schuster, E. 2005. Geologic map of Washington State. GM-33, Washington Division of Geology and Earth Resources, Olympia, WA. https://washingtonstategeology.files.wordpress.com/2012/10/gm53_small2.png.
- The Seattle Times. 2013. Proposed coal terminal near Longview faces broad review. *The Seattle Times* 12 February. <https://www.seattletimes.com/seattle-news/proposed-coal-terminal-near-longview-faces-broad-review/>. (accessed June 23, 2019).
- — —. 2017a. Power lines to connect Wyoming wind energy to Southwest. *The Seattle Times* 14 September. <https://www.seattletimes.com/nation-world/power-lines-to-connect-wyoming-wind-energy-to-southwest/>. (accessed March 23, 2019).

- — —. 2017b. BNSF appeals review of Longview coal-terminal project. *The Seattle Times* 14 May. <https://www.seattletimes.com/seattle-news/bnsf-appeals-review-of-longview-coal-terminal-project/>. (accessed June 25, 2019).
- Shoreline Hearings Board. 2018. Order on motions. <http://www.eluho.wa.gov/Global/RenderPDF?source=casedocument&id=2359>. (accessed August 19, 2019).
- Sightline Institute. 2019. The thin green line. <https://www.sightline.org/research/thin-green-line/>. (accessed July 2, 2019).
- Snapp, S. 2011. letter to T. Schroeder and R. Perry. May 24, 2011. <http://www.coaltrainfacts.com/docs/Letter-from-Bellingham-City-Council.pdf>. (accessed July 8, 2019).
- Snyder, P. 2018. Water demand, adaptive capacity, and drought: An analysis of the Upper Klamath Basin, Oregon and California. Master's thesis, Central Washington University. <https://digitalcommons.cwu.edu/etd/1100>.
- Stepanowsky, A. 2011. Millennium reaches settlement to avoid water quality lawsuit. *The Daily News* 5 October. https://tdn.com/news/local/millennium-reaches-settlement-to-avoid-water-quality-lawsuit/article_ad025c00-efae-11e0-88df-001cc4c03286.html. (accessed June 19, 2019).
- Storror, B. 2018. Empty port tests Trump's promise to save coal. <https://www.eenews.net/stories/1060102245>. (accessed June 6, 2019).
- Stuckey, H.L. 2013. Three types of interviews: Qualitative research methods in social health. *Journal of Social Health and Diabetes* 1 (2): 56-59. doi: 10.4103/2321-0656.115294.
- Taylor, R. 2014. Exporting coal, importing pollution: Can the consumption of coal be ignored Under NEPA and SEPA analysis when burned overseas? *Washington Journal of Environmental Law & Policy* 4 (1): 212-248.
- Torkington, J. 2010. email to S. Whitton, July 19, 2010.
- Trump, D.J. 2017a. Executive order: Reducing regulation and controlling regulatory costs. <https://www.politico.com/f/?id=00000159-f049-d7d2-a97f-fcd922750000>. (accessed June 8, 2019).
- — —. 2017b. Presidential Executive Order on promoting energy independence and economic growth. <https://www.whitehouse.gov/presidential-actions/presidential-executive-order-promoting-energy-independence-economic-growth/>. (accessed August 8, 2019).

- — —. 2018. Remarks by President Trump to the 73rd Session of the United Nations General Assembly. <https://ee.usembassy.gov/remarks-president-unga2018/>. (accessed March 23, 2019).
- — —. 2019. Executive Order on promoting energy infrastructure and economic growth. <https://www.whitehouse.gov/presidential-actions/executive-order-promoting-energy-infrastructure-economic-growth/>. (accessed July 1, 2019).
- Tsing, A.L. 2005. *Friction: An ethnography of global connection*. Princeton: University Press.
- United Nations Framework Convention on Climate Change. 2015. Paris Agreement. https://unfccc.int/sites/default/files/english_paris_agreement.pdf. (accessed March 23, 2019).
- U.S. Army Corps of Engineers. 2012a. Scoping begins Sept. 24 for proposed Gateway Pacific Terminal EIS. <https://www.nws.usace.army.mil/Media/News-Releases/Article/483395/scoping-begins-sept-24-for-proposed-gateway-pacific-terminal-eis/>. (accessed July 10, 2019).
- — —. 2012b. Ecology, Cowlitz County, U.S. Army Corps of Engineers agree on joint environmental review of Millennium coal export proposal. <https://www.nws.usace.army.mil/Media/News-Releases/Article/483398/ecology-cowlitz-county-us-army-corps-of-engineers-agree-on-joint-environmental/>. (accessed June 21, 2019).
- — —. 2016a. Millennium Bulk Terminals-Longview NEPA Draft Environmental Impact Statement. <https://www.millenniumbulkeiswa.gov/nepa-draft-eis.html>. (accessed June 24, 2019).
- — —. 2016b. Comments sought on Millennium Bulk Terminals-Longview permit application and Draft EIS. <https://www.nws.usace.army.mil/Media/News-Releases/Article/960953/comments-sought-on-millennium-bulk-terminals-longview-permit-application-and-dra/>. (accessed June 24, 2019).
- — —. 2016c. Army Corps halts Gateway Pacific Terminal permitting process. <https://www.nws.usace.army.mil/Media/News-Releases/Article/754951/army-corps-halts-gateway-pacific-terminal-permitting-process/>. (accessed July 8, 2019).
- — —. 2016d. Chapter 5 – Natural environment: Affected environment and project impacts. https://www.millenniumbulkeiswa.gov/assets/chapter_5_natural_environment_affected_environment_and_project_impacts.pdf. (accessed August 8, 2019).

- — —. 2016e. Chapter 4 – Built environment: Affected environment and project impacts.
https://www.millenniumbulkeiswa.gov/assets/chapter_4.5_tribal_treaty_rights_and_d_trust_responsibilities.pdf. (accessed August 8, 2019).
- — —. 2016f. Memorandum for record: Gateway Pacific Terminal Project and Lummi Nation’s usual and accustomed treaty fishing rights at Cherry Point, Whatcom County. <http://media.bellinghamherald.com/static/downloads/GPTDecision.pdf>. (accessed November 18, 2019).
- U.S. Census Bureau. 2018. Longview city, Washington.
<https://www.census.gov/quickfacts/fact/table/longviewcitywashington/PST045216>. (accessed March 23, 2019).
- U.S. Energy Information Administration. 2011a. U.S. coal supply and demand: 2010 year in review. https://www.eia.gov/coal/review/coal_prices.php. (accessed July 3, 2019).
- — —. 2011b. U.S. coal supply and demand: 2010 year in review exports and imports. https://www.eia.gov/coal/review/coal_exports_imports.php. (accessed July 3, 2019).
- — —. 2012. Trends in renewable energy consumption and electricity.
<https://www.eia.gov/renewable/annual/trends/>. (accessed March 23, 2019).
- — —. 2013a. Energy sources have changed throughout the history of the United States. <https://www.eia.gov/todayinenergy/detail.php?id=11951>. (accessed March 23, 2019).
- — —. 2013b. 2012 brief: Coal prices and production in most basins down in 2012. <https://www.eia.gov/todayinenergy/detail.php?id=9570>. (accessed July 2, 2019).
- — —. 2016. Quarterly coal production lowest since the early 1980s.
<https://www.eia.gov/todayinenergy/detail.php?id=26612>. (accessed March 23, 2019).
- — —. 2017a. Quarterly coal report, April – June 2017.
<https://www.eia.gov/coal/production/quarterly/pdf/t7p01p1.pdf>. (accessed March 23, 2019).
- — —. 2017b. U.S. coal exports have increased over the past six months.
<https://www.eia.gov/todayinenergy/detail.php?id=32092>. (accessed March 23, 2019).

- — —. 2017c. Coal production declines in 2016, with average coal production below their 2015 level. <https://www.eia.gov/todayinenergy/detail.php?id=29472>. (accessed March 23, 2019).
- — —. 2018a. Washington - State energy profile overview. <https://www.eia.gov/state/?sid=WA>. (accessed March 23, 2019).
- — —. 2018b. Washington – State energy profile analysis. <https://www.eia.gov/state/analysis.php?sid=WA>. (accessed March 23, 2019).
- — —. 2018c. Refinery capacity report. <https://www.eia.gov/petroleum/refinerycapacity/table1.pdf>. (accessed March 23, 2019).
- — —. 2018d. How much of U.S. energy consumption and electricity generation comes from renewable energy source? – FAQ. <https://www.eia.gov/tools/faqs/faq.php?id=92&t=4>. (accessed March 23, 2019).
- — —. 2019a. What is U.S. electricity generation by energy source? <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3>. (accessed March 23, 2019).
- — —. 2019b. Petroleum, natural gas, and coal continue to dominate U.S. energy consumption. <https://www.eia.gov/todayinenergy/detail.php?id=40013>. (accessed July 15, 2019).
- — —. 2019c. Clean Water Act Section 401 guidance for federal agencies, states and authorized tribes. https://www.epa.gov/sites/production/files/2019-06/documents/cwa_section_401_guidance.pdf. (accessed July 2, 2019).
- U.S. Environmental Protection Agency. 2009. Columbia River Basin: State of the River report for toxics January 2009. EPA 910-R-08-004, Environmental Protection Agency Region 10, Seattle, WA. https://www.epa.gov/sites/production/files/documents/columbia_state_of_the_river_report_jan2009.pdf.
- — —. 2018. EPA and Army propose new ‘Waters of the United States’ definition. <https://www.epa.gov/newsreleases/epa-and-army-propose-new-waters-united-states-definition>. (accessed March 23, 2019).
- — —. 2019a. EPA finalizes Affordable Clean Energy rule, ensuring reliable, diversified energy resources while protecting our environment. <https://www.epa.gov/newsreleases/epa-finalizes-affordable-clean-energy-rule-ensuring-reliable-diversified-energy>. (accessed October 24, 2019).

- — —. 2019b. Clean Water Act Section 401 guidance for federal agencies, states and authorized tribes. https://www.epa.gov/sites/production/files/2019-06/documents/cwa_section_401_guidance.pdf. (accessed July 2, 2019).
- — —. 2019c. Definition of “Waters of the United States” – Recodification of pre-existing rules. <https://www.epa.gov/wotus-rule/definition-waters-united-states-recodification-pre-existing-rules>. (accessed November 17, 2019)
- U.S. Geological Survey. 2007. Water data report 2007 14243000 Cowlitz River at Castle Rock, WA. <https://wdr.water.usgs.gov/wy2007/pdfs/14243000.2007.pdf>. (accessed March 23, 2019).
- Vartan, S. 2018. In Washington, a coal-fired power plant will put its money on the sun. <https://www.nrdc.org/stories/washington-coal-fired-power-plant-will-put-its-money-sun>. (accessed March 23, 2019).
- Venable LLP. 2019. Notice of appeal. http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/case-documents/2019/20190510_docket-318-cv-05005_notice-of-appeal-1.pdf. (accessed July 1, 2019).
- Washington State Democratic Convention. 2012. Resolution regarding the shipment of coal from Washington’s shores. <http://www.coaltrainfacts.org/docs/Whatcom-County-Dem-resolution.pdf>. (accessed June 21, 2019).
- Watts, M. 1983. On the poverty of theory: Natural hazards research in context. In *Interpretations of Calamity*, ed. K. Hewitt, 231-262. Winchester: Allen & Unwin Inc.
- — —. 1999. Petro-violence: Some thoughts on community, extraction, and political ecology. *UC Berkeley Workshop on Environmental Politics*. <https://escholarship.org/uc/item/7zh116zd>.
- — —. 2003. Development and governmentality. *Singapore Journal of Tropical Geography* 24(1): 6-34. <https://doi.org/10.1111/1467-9493.00140>
- Western Regional Climate Center. 2017. Longview, Washington. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?wa4769>. (accessed March 23, 2019).
- Westmar Consultants. 1991. letter to US Army Corps of Engineers. December 24, 1991. <https://whatcomcounty.us/DocumentCenter/View/2828/Historical-Documents---1991-1992-Documents-PDF?bidId=#Page37>. (accessed July 10, 2019).
- Whatcom County. 1996. Gateway Pacific Terminal Draft Environmental Impact Statement. <http://www.whatcomcounty.us/DocumentCenter/View/2834/Historical->

- Documents---1996-Draft-Environmental-Impact-Statement-PDF?bidId=. (accessed July 8, 2019).
- — —. 1997. Gateway Pacific Terminal Final Environmental Impact Statement. <http://www.whatcomcounty.us/DocumentCenter/View/2837/Historical-Documents---1997-Final-Environmental-Impact-Statement-PDF?bidId=>. (accessed July 8, 2019).
- — —. 2011. Notice of violation – Reissue, Title 20 – Clearing regulations. <http://www.coaltrainfacts.org/docs/A-County-Notice-Violation-SSA-enf11-047-Pac-Intl-Terminal-2.3-Notices-Clearing-20110817.pdf>. (accessed July 8, 2019).
- Whatcom Docs. 2012. letter to J. Louws and T. Sturdevant. March 12, 2012. <http://www.coaltrainfacts.org/docs/WhatcomDocs3-12-12.pdf>. (accessed July 8, 2019).
- White House. 2017. President Trump: Putting coal country back to work. <https://www.whitehouse.gov/briefings-statements/president-trump-putting-coal-country-back-work/>. (accessed March 23, 2019).
- Williams-Derry, C., and E. de Place. 2017. Northwest coal exports: The end is nigh. <https://www.sightline.org/2017/01/05/northwest-coal-exports-the-end-is-nigh/>. (accessed November 17, 2019).
- Wolfe, E.W., and T.C. Pierson. 1995. Volcanic-hazard zonation for Mount St. Helens, Washington. OFR 95-497, U.S. Geological Survey, Reston, Virginia. https://pubs.usgs.gov/of/1995/0497/pdf/of95-497_plate1.pdf.
- World Media Group, LLC, 2018. Longview, WA Weather. <http://www.usa.com/longview-wa-weather.htm>. (accessed March 23, 2019).
- Zalik, A. 2004. The Niger Delta: ‘Petro-violence’ and ‘partnership development’. *Review of African Political Economy* 31(101): 401-424. <https://doi.org/10.1080/03056240420005512>.
- Zimmer-Stucky, J. 2016. Millennium coal hearing in Longview, WA draws 1k+ attendees. <https://www.columbiariverkeeper.org/news/2016/5/millennium-coal-hearing-longview-wa-draws-1k-attendees>. (accessed August 8, 2016).

APPENDIXES

APPENDIX A

LIST OF ACRONYMS

ACER	Affordable Clean Energy Rule
BNSF	Burlington Northern Santa Fe
CAA	Clean Air Act
CAP	Critical Areas Permit
CAPO	Critical Areas Protection Ordinance
CC&E	Cowlitz County and Department of Ecology
CCC	Cowlitz County Code
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CO ₂	carbon dioxide
CPP	Clean Power Plan
CSR	corporate social responsibility
CWA	Clean Water Act
DEIS	draft Environmental Impact Statement
DEQ	Oregon Department of Environmental Quality
DNR	Department of Natural Resources
EHC	event history calendar
EIA	U.S. Energy Information Administration
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEIS	final Environmental Impact Statement
FMO	Floodplain Management Ordinance
GHG	greenhouse gas
GHGe	greenhouse emissions
GMA	Washington State Growth Management Act
GPT	Gateway Pacific Terminal
HIA	Health Impact Statement
HPA	Hydraulic Project Approval
ICCTA	Interstate Commerce Commission Termination Act
IEA	International Energy Administration
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
JARPA	Join Aquatic Resources Permit Application
LCEP	Lower Columbia River Estuary Partnership
LCR	lower Columbia River
MBL	Millennium Bulk Logistics Inc.

MBT	Millennium Bulk Terminals
MBTL	Millennium Bulk Terminals Longview
MDNS	Mitigated Determination of Non-Significance
MMst	million short tons
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NWA	Northwest Alloys
O	objective
ODSL	Oregon Department of State Lands
OPB	Oregon Public Broadcasting
PCHB	Pollution Control Hearings Board
PEIS	Programmatic Environmental Impact Statement
PIT	Pacific International Terminals
PNW	Pacific Northwest
PRB	Powder River Basin
PWSA	Ports and Waterways Safety Act
RCRA	Resource Conservation and Recovery Act
RHA	Rivers and Harbors Act
RQ	research question
SCUP	Shoreline Conditional Use Permit
SEPA	State Environmental Policy Act
SMA	Shoreline Management Act
SMP	Shoreline Master Program
SSDP	Shoreline Substantial Development Permit
UP	Union Pacific
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WCAA	Washington Clean Air Act
WDFW	Washington Department of Fish and Wildlife
WOTUS	waters of the United States
WSDC	Washington State Democratic Convention
WSHC	Washington State Hydraulic Code
WSWC	Washington State Water Code